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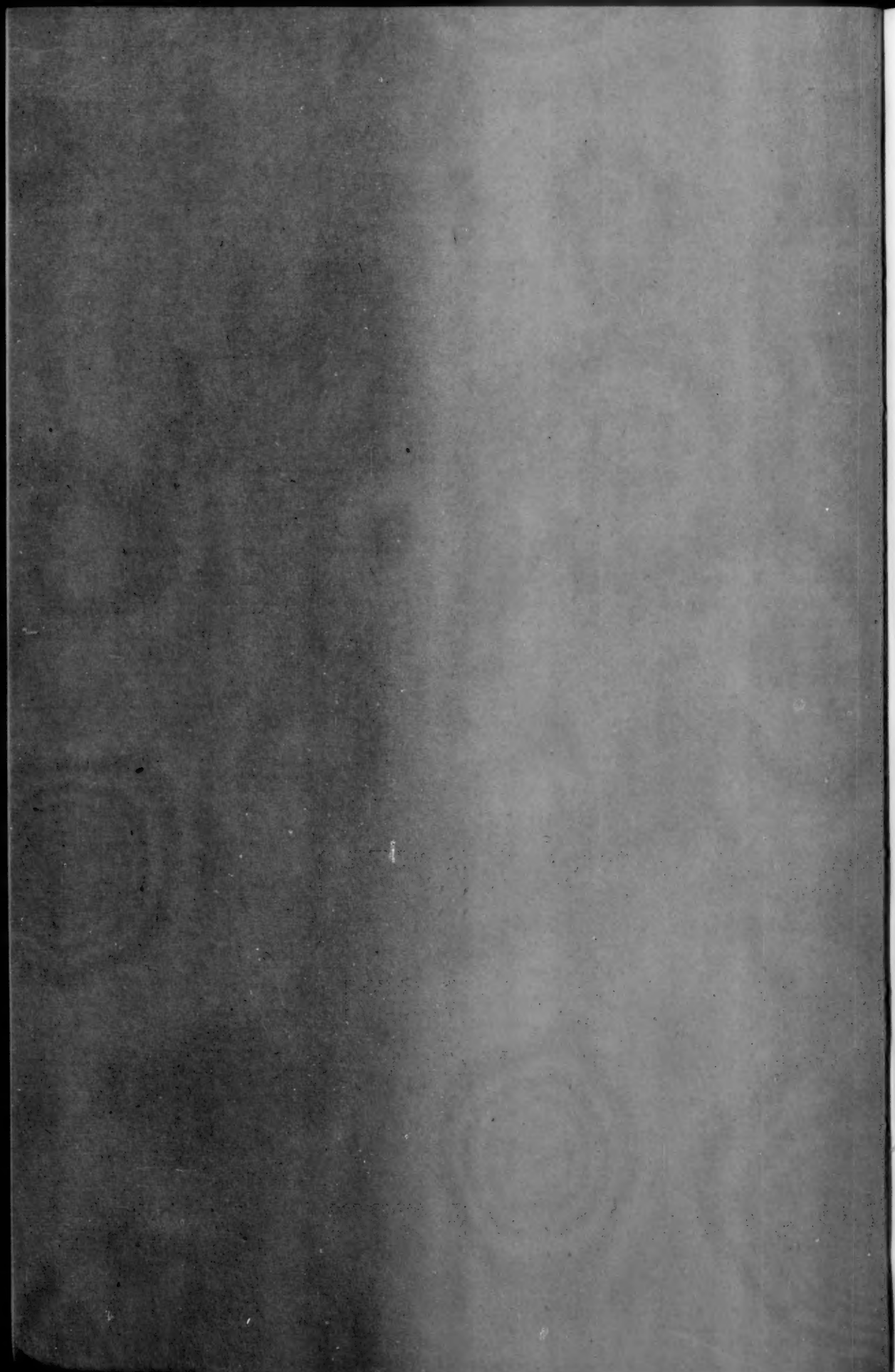

THE AMERICAN JOURNAL OF PSYCHIATRY

CURRENT DEVELOPMENTS AND PROBLEMS IN MILITARY NEUROPSYCHIATRY [1]

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The status of neuropsychiatry in World War I and in World War II has been presented elsewhere(1-12). It is the purpose of this paper to present developments in psychiatry in the Department of the Army during the last 1 to 2 years.

ORGANIZATION

During World War II the strength of the Neuropsychiatry Consultants Division in the Office of the Surgeon General consisted of approximately 9 officers and 9 civilians. Additional officers in psychiatry were on duty elsewhere in the War Department. On June 30, 1946, the authorized strength was 2 officers and 5 clerical assistants. Since then one additional officer has been obtained for clinical psychology and one for psychiatric social work. In any future emergency it is contemplated that activities will be consolidated and an authorized strength will be provided initially to the Division of approximately 15 officers and 10 clerical assistants, with divisional branches for psychiatry, mental hygiene, neurology, clinical psychology, and psychiatric social work. Designated duties of the entire Neuropsychiatry Consultants Division may be summarized very briefly as follows:

1. *Mission.*—To maintain the mental health of military personnel and to ensure high standards of professional care for neuropsychiatric patients.

2. *Functions.*—Report to and advise The Surgeon General on all matters pertaining to psychiatry, neurology, mental hygiene, clinical psychology, and psychiatric social work. Formulate and/or approve all policies, directives, and procedures in the fields mentioned above.

In general hospitals that are neuropsychiatric centers, neuropsychiatry has been designated as a service on equal status with medicine and surgery(13). In other installations where the number of patients and facilities are minimal, neuropsychiatry is a section of the medical service. The neuropsychiatric service is usually divided into a psychiatry section, neurology section, and a consultation and outpatient section (mental hygiene clinic). Administrative assistants have been provided for the chiefs of services.

Mental hygiene clinics, established first during World War II, have been continued in all basic training centers and have become permanent fixtures in army organization. Psychiatry and sociology divisions have likewise been continued in all disciplinary barracks. Manning guides for specialized personnel are in effect for all Zone of the Interior installations(13). For the first time regular monthly reports summarizing activities in the psychiatry and sociology divisions are being received by the Surgeon General through official channels(14), and requirement of a similar report from the mental hygiene clinics in training centers is in process of publication.

Revision is being made of the table of organization and equipment for field medical units to include more neuropsychiatric personnel. Of particular interest is the combat treatment plan, soon to be published in Army directives. Basic principles employed are:

1. Treatment as far forward in the combat area as possible.

2. Centralization of triage and treatment for all neuropsychiatric patients.

3. Avoidance of a hospital atmosphere in the treatment facility.

These treatment centers, allocated on a troop basis of one per army corps, will be formed by adding a neuropsychiatric team (8-500 series), composed of 5 psychiatrists, 1 clinical psychologist, 1 psychiatric social worker, and 10 enlisted specialists, to a separate clearing company. These treatment units will be controlled at the army level by the Army Surgeon. Such neuropsychiatric

[1] Read at the 104th annual meeting of The American Psychiatric Association, Washington, D. C., May 17-20, 1948.

From the Office of the Surgeon General.

teams may also be used as mental hygiene clinics in rehabilitation areas, disciplinary centers, etc., or to augment staffs of numbered station or general hospitals to form specialized treatment units.

The duties of staff neuropsychiatrists have been published for theater or major commands, armies, divisions, training centers, and disciplinary barracks, giving wide latitude to psychiatrists in matters affecting mental health of the command(15). The majority of factors which determine the mental health of military personnel are functions of command. In other words, the main job of implementing preventive psychiatry must be done by commanding officers of the line. It is the responsibility of command to obtain maximum utilization of man power by providing proper leadership, training, incentive, motivation, orientation, and such reclassification, reassignment, rest, recreation, and relaxation as the exigencies of the military service permit. It is the duty of the staff neuropsychiatrist in training centers, disciplinary barracks, divisions, armies, theaters, and higher echelons to be alert to policies, situations and other factors which are precipitating neuropsychiatric disorders, and to recommend the measures necessary to alleviate or remove these factors. The line officer is often primarily concerned with results, or performance of the mission; the average medical officer is usually concerned with the man only when he is sick; but the job of the psychiatrist is to be ever cognizant of the total man: his personality, his situation, his job, his assets, his liabilities, the effect on him of stresses, and the maintenance for him of supports.

Personnel

The concept of the neuropsychiatric team composed of psychiatrist, psychologist, and social workers, augmented whenever possible by psychiatrically trained nurses and specialized enlisted personnel, as vitally necessary in diagnosis and treatment, has been placed in effect in all army echelons.

Military occupational specialty numbers are available for the neuropsychiatrist (MOS 3130), psychiatrist (MOS 3129), neurologist (MOS 3128), electroencephalographer (MOS 3127), clinical psychologist (MOS 2232), psychological assistant (MOS 2239), psychiatric social worker (MOS 3605), and nurse, neuropsychiatric (MOS 3437). Military occupational specialty numbers have also been established for enlisted personnel as follows: neuropsychiatric technician (MOS 1409), electroencephalographic technician (MOS 2409), clinical psychology technician (MOS 289), psychiatric social work technician (MOS 263). Many of these occupational specialty numbers were not available during World War II, and it is believed that much better control and more efficient use of personnel can be obtained in the future by the utilization of these additional specialty numbers.

With an increase in the size of the Army by Selective Service or Universal Military Training or both, additional medical personnel will be needed. It is contemplated by the Army that physicians will be called in the following order of priority:

1. Those whose education has been in part defrayed by the United States Government.
2. Those who have rendered no prior active military service.
3. Physicians in inverse order of length of active military service.

It is expected that actual selection will be accomplished by Selective Service in consultation with representatives of organized medicine. It is also obvious that adequate medical service cannot be rendered entirely by recent graduates in the field of medicine. Mature specialists will be needed for key positions. Therefore, there will be a requirement for specialists under the age of 45 years in certain numbers over and above the order of priority as set forth above. It is recognized that certain deferments may be indicated because of training, teaching, or research.

To meet the need for specialists in the Regular Army 150 commissions in the grades of major and above will be offered in 1948 and an equal number in 1949 to physicians who have completed formal specialty training or are qualified for command and staff positions.

Training

The School of Military Neuropsychiatry has been continued and expanded as a part

of the Medical Field Service School at Brooke Army Medical Center at Fort Sam Houston, Texas. Courses are in existence for officers in neuropsychiatry, electroencephalography, clinical psychology, psychiatric social work, and psychiatric nursing. There are courses for enlisted personnel to qualify them as neuropsychiatric technicians, electroencephalographic technicians, clinical psychology technicians, and psychiatric social work technicians. A shortage of qualified teaching personnel has limited the number trained in these courses, but with an increase in the size of the Army it will be mandatory to expand the school to provide necessary specialized personnel.

To meet the vastly increased need for neurologists and psychiatrists in the Army a long-range plan for residency training has been developed. Approved programs are in operation at Walter Reed, Letterman and Fitzsimons General Hospitals. It is expected that approximately 55 residents will be in training at these hospitals by July 1, 1948. Additional officers have also been assigned as Professors of Military Science and Tactics in the ROTC units at the Universities of California, Chicago, Cincinnati, and Colorado, who in addition are receiving full residency training in psychiatry. Full training in psychoanalysis will be provided for selected residents.

During 1948, 500 younger physicians will be offered commissions and be assigned to duty at army hospitals in order to compete for approximately 260 positions in army hospital residencies and in civilian hospital residencies made available to the Army. Resignation of officers commissioned under this program will not be accepted within one year after the date of commission.

Physicians already resident in civilian hospitals are eligible for commissions in the Regular Army. Those commissioned may continue their residencies with full pay and allowances and will be required to serve one year of active duty in the Army as distinguished from training duty for each year of training in the civilian residency. Three hundred residents may be commissioned under this program in 1948 and 300 in 1949-1950.

Active reserve service in specific positions for limited periods will be offered physicians who are not interested in a Regular Army career. Assignment to duty will be in the specialty concerned and will fulfill experience requirements by the specialty boards. The benefits to be derived from assignment in the European Theater are considered especially desirable.

The value of training in psychiatry for all Medical Corps officers is recognized. During the summer and fall of 1948 it is planned to establish 2-week courses in each of the 6 army areas for instruction of dispensary officers, general duty officers, and ward officers in the doctor-patient relationship, psychosomatic disorders, techniques of interviewing, and methods of psychotherapy. Each course will be conducted by a teaching group of civilian consultants.

To augment the supply of allied specialists authorization has been obtained to train, during the coming year, 16 clinical psychologists and psychiatric social workers in civilian universities. Medical Service Corps officers of the Regular Army will be assigned to these courses to complete requirements for a Master's degree in psychiatric social work or a Doctorate in psychology in order to qualify our personnel according to comparable civilian standards. Individuals from civilian life may compete for Regular Army commissions while serving a year of active duty. The age requirement for such a competetive tour is now limited to age 30, but it is planned to introduce legislation making older individuals eligible for commissions.

Consultants' Program

There are at present approximately 131 civilian consultants in neurology and in psychiatry appointed to The Surgeon General. These consultants are divided essentially into 3 groups(16).

One group operates primarily as advisors to The Surgeon General with active committees on (1) personnel policy, (2) organization, (3) prevention, (4) selection and discharge, (5) treatment, and (6) potential emergencies. These committees meet from once to twice yearly. Selected consultants in medicine, surgery, and psychiatry, meeting at frequent intervals, also act as a special advisory group to The Surgeon General and

to the Chief of Personnel and the Chief of the Education and Training Divisions.

A second group of consultants acts as teaching consultants to general hospitals, station hospitals, disciplinary barracks, and training centers. In teaching hospitals these consultants are largely responsible for the residency program and are in attendance regularly. In other installations such teaching consultants may make visits at weekly intervals or less often, as may be indicated, to assist in the supervision and care of patients and provide instruction to the staff.

A third group of consultants is assigned to the Army Surgeon in each of the army areas and acts in the capacity of roving consultants, visiting such installations at such intervals as may be considered desirable. They also assist in the care and supervision of patients and provide instruction to the staff. In most of the army areas one of the consultants in psychiatry is designated as the chief consultant with duties and responsibilities similar to those of the service command consultant during World War II.

Of current interest is the overseas consultant program in which at monthly intervals representative consultants in the specialties are visiting in a group both the European and Pacific Theaters. Our hospitals overseas are deeply appreciative of the assistance and contact provided by these visits and the consultants themselves feel rewarded in no small measure.

Research

The research program in the Army for neuropsychiatry has been hampered by the lack of the available trained personnel. This deficiency should be corrected in the near future and intensive effort be given full time to research problems in human behavior.

The following research programs are being carried on at present by the Army or by civilian contract:

1. Man-power selection and preventive psychiatry.
2. Psychophysiological factors in neurotic patterns of behavior.
3. Psychiatric disorders in the Army in World War II.
4. Neurocirculatory asthenia, anxiety neurosis, and allied states.
5. Investigation of tank turret control.
6. Personality reactions under conditions of extreme cold.
7. A research program is planned (but not in operation) on officer selection methods.

It is considered highly desirable that intensive research be done in the general area of motivation.

Neuropsychiatric Policies

1. *Selection.*—Mobilization for emergency service should be universal in the broadest possible sense. Only those individuals obviously disqualified by disabling disease from rendering reasonable service should be exempted. All others within eligible age groups without exception should be called upon to serve as needed. Physical standards as laid down in Mobilization Regulations 1-9 are being rewritten to make this possible. Those with psychoses, moderate and severe chronic psychoneuroses, marked degrees of character and behavior disorders, and marked mental deficiency will be nonacceptable or deferred indefinitely. All others will be acceptable.

2. *Classification and Reclassification.*—Classification and reclassification must be a continual and fluid process. It should be the controlling factor in assignment and training programs with due consideration to emotional and intellectual as well as to physical capacity. This concept is now in operation. The PULHES Profile System will be utilized extensively. In neuropsychiatry, the S-1 category will consist of those with no psychiatric disorder; S-2, those with mild transient psychoneurotic reactions, mild character and behavior disorders, borderline mental deficiency; and S-3, those with mild chronic psychoneuroses, moderate transient psychoneurotic reaction, mild degrees of mental deficiency, or history of nonrecent transient psychotic reactions. Additional research is needed to select those especially qualified for combat or hazardous duty.

3. *Training.*—Diversification of training, to take account of variations in individual capacity and based on differing mental and psychological aptitudes as well as on physical limitations, must be accomplished and

adopted for specialized objectives. As yet only limited diversification of levels of training has been planned.

4. *Discharge.*—Individuals should be separated from the service only when the most complete utilization of training and classification programs has demonstrated the individual's unfitness for use in any capacity. If an individual is able to adjust satisfactorily to civilian life, he should be able to make an adjustment somewhere within the army structure. Those individuals incurring disability for civilian activity should be medically discharged, but all ineffectiveness due primarily to lack of adaptability should be disposed of through administrative channels. Army Regulations 615-369(17) has been revised to make administrative separations easier particularly within the first few weeks of service when failure occurs by reason of inaptitude or lack of adaptability. In determining disposition of cases, it must be clearly understood that there are many causes of noneffectiveness other than sickness. Physical defects may exist coincidentally rather than act as prime determining causes. Administrative separation should be accomplished for those who show lack of adaptability by reason of:

(a) Lack of physical stamina, as applied to those unlikely to render effective service upon return to duty by reason of likelihood of early recurrence of incapacitating symptoms from any uncontrollable cause, as a result of continued military service, but who can be returned to civilian life without likelihood of such recurrence, or,

(b) Transient personality reactions to acute or special stresses such as combat exhaustion or acute situational maladjustments, or,

(c) The character and behavior disorders of schizoid, paranoid, cyclothymic, inadequate and asocial personalities; immaturity reactions involving emotional instability, dependency, or aggressive reactions; mental deficiency, apathy, defective attitudes, and inability to expend effort.

5. *Mental Hygiene.*—Of outstanding importance is the necessity for preventive and social psychiatry. Every means of raising the levels of motivation, incentive, and morale should be utilized to the fullest extent. The importance of education in the dynamics of human behavior has been recognized in the instruction given to officers and enlisted men alike upon matters of personal adjustment and mental health(18, 19). The role of environmental factors and of individual stresses and supports cannot be overemphasized.

6. *Treatment.*—It is essential that there should be provided an adequate psychiatric treatment program based upon the knowledge derived from experiences in World Wars I and II. The old policy of diagnosis and disposition has been abandoned and emphasis is placed on full and complete treatment.

7. Defects in the replacement system of World War II have been recognized. It is planned for recruits to become identified with a unit from the moment of arrival at the training center, and to remain together in large groups until final assignment to a unit, even though that assignment be in the front line of combat. At one of the training centers cadre from the recruit's future training company come and live in other barracks with him during his initial processing. When he is actually assigned to the training company, they then return with him to that company. On leaving the training center members of the cadre will also be reassigned so that recruits remain with both officers and buddies throughout their army careers.

8. A tour for combat duty and a revised rotation plan are at present under consideration.

9. The supporting factors of group identification and the importance of high and low level leadership are receiving renewed emphasis. The principle of group identification has been followed in the replacement plan outlined above and in measures designed to enable a newcomer to rapidly identify himself as an integral part of a new group. Instruction in the principles of leadership and in emotional and personality problems is being given in army schools from troop level up to and including the War College.

10. To promote more efficient communication with field installations on matters of preventive psychiatry and mental health, periodic Essential Technical Medical Data Reports(20) are received from overseas units.

These reports require that the incidence of various types of neuropsychiatric disorders will be discussed with probable causes, as may be indicated, in relationship to induction criteria, classification and assignment, training, leadership, morale with particular attention to attitudes and beliefs observed in officers and enlisted men, motivation, situational factors, current procedures and policies that promote or adversely affect the mental health of the Command. The reports include also dispositions and a discussion of types of treatment found to be especially effective. Incidentally, information at the present time on causes of mental ill health tends to revolve around: (1) separation from families; (2) preexisting character and behavior disorders; (3) desire for another assignment; (4) various environmental factors.

Official notice has been taken by the Adjutant General of reports that promises made at the time of recruiting are subsequently broken. Now the enlistee signs a series of certificates setting forth explicitly the conditions under which he is taken into the Army.

11. A simple but yet equitable method of disposing of the relatively inefficient officer still remains largely an unsolved problem.

12. The current plan of assigning specialists to a unit only at such time as the unit may be operating or expected to go into operation without delay will result in increased efficiency in the utilization of personnel.

Summary

1. The importance of psychiatry as a specialty has taken on increasing importance in the Armed Forces.

2. It is well recognized that all personnel must be inculcated in the dynamics of human behavior.

BIBLIOGRAPHY

1. The Medical Department of the U. S. Army in The World War: Vol. X, Neuropsychiatry. U. S. Government Printing Office, 1929.

2. Bartemeier, L. H., et al. Combat exhaustion. J. Nerv. and Ment. Dis., **104**: 358-389, Oct. 1946.

3. Ibid: Combat Exhaustion. J. Nerv. and Ment. Dis., **104**: 489-525, Nov. 1946.

4. Appel, J. W., and Beebe, G. W. Preventive psychiatry. J.A.M.A., **131**: 1469-1475, Aug. 31, 1946.

5. Guttmacher, M. S. Army Consultation Services. Am. J. Psychiat., **102**: 735-748, May 1946.

6. Cooke, E. D. All But Me and Thee. Infantry Journal Press, 1946.

7. Marshall, S. L. A. Men Under Fire. Morrow, 1947.

8. Rees, J. R. The Shaping of Psychiatry by War. W. W. Norton & Co., 1945.

9. Grinker, R. R., and Spiegel, J. P. Men Under Stress. Blakiston, 1945.

10. Caldwell, J. M., and Snyder, H. M. Organization and administration of neuropsychiatry in the Office of the Surgeon General, 1942-1947. Jour. Neurol. Dis. (in press).

11. Caldwell, J. M. The present status of neuropsychiatry in the Army. Mil. Surgeon (in press).

12. Menninger, W. C. Psychiatry in a Troubled World. Macmillan, 1948.

13. NP Service in general and station hospitals, training centers and disciplinary barracks, WD Cir. 91. 8 April 1947.

14. Monthly Statistical Report of Disciplinary Barracks, DA AGO Form 898, 1 Nov. 1947.

15. The Medical Corps—General Provisions, Staff Neuropsychiatrist, C 4, AR 40-10, 23 July 1947.

16. Medical Corps Professional Consultants, C 5, AR 40-10, 21 Oct. 1947.

17. Enlisted Men, Discharge, Inaptitude or Unsuitability, AR 615-369, 14 May 1947 and C 1, AR 615-369, 25 Mar. 1948.

18. TB Med 12, 22 Feb. 1944, Lecture Outlines for Officers on Personnel Adjustment Problems.

19. TB Med 21, 20 Dec. 1945, Lecture Outlines for Enlisted Men on Personal Adjustment Problems.

20. Essential Technical Medical Data, WD Memo 40-1005-1, 18 Dec. 1946, C 1, dated 15 Aug. 1947.

THE INVOLUTIONAL PSYCHOSES[1]

A Socio-Psychiatric Follow-Up Study

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In 1941 we reported the results of a socio-psychiatric investigation of the involutional psychoses(5). The material consisted of 47 patients who were admitted to the Worcester State Hospital during the year July 1, 1939–June 30, 1940. The investigations included: (1) studies of the background in terms of the patient's past history and the personality make-up, the social setting and the factors that led to the onset of the present illness; (2) observations following admission, *viz.*, the nature of the clinical picture and the course of the illness, treatment and its results, whether the patient was still in the hospital or outside. The findings were reported by us in the spring of 1941 so that the follow-up period consisted, at most, of several months.

A number of factors relevant to the causes, nature, and prognosis of the disease came to the surface on the basis of those investigations. The most important of these were:

A. That involutional psychosis is a disease process *sui generis* distinct from the manic-depressive group on the one hand and the metabolic-endocrinological personality disturbances on the other, although some relationship to these 2 groups does exist.

B. That in the development of this psychosis the premorbid personality and catastrophic occurrences before the onset of the illness are of outstanding importance.

C. That certain features, both in the development and clinical picture of the disease, seemed to have varying degrees of validity as prognostic criteria. Prominent among these were the following: The age of the patient and manner of the onset of the disease, and the type of premorbid personality and degree of deviation from the average, the intellectual level, the nature of the precipitating factors, and finally the social setting from which the patient came and to which he had to return after hospitalization was discontinued. At the time of our report we expressed our concern about the final validity of our conclusions primarily because of the shortness of the period of follow-up. Quite a few of the patients were still at the hospital and there was a possibility that they eventually might show improvement. Some of them had left the hospital and there was a question as to whether or not they might suffer relapses. In some cases the social setup was such that even if the patient were well enough to be sent out on visit there was no adequate place for him on the outside. In other cases, the patient returned to a social situation which even at that time we felt was inadequate but it was too early to judge whether the patient would adjust in spite of these difficulties. Finally, no adequate opportunity was afforded in that study for the evaluation of social therapy in patients of this type. In other words, the follow-up period was not long enough to permit the organization of plans for a suitable social setting for the patient and the testing of the influence of such a social setting on further developments in the patient's condition.

At the present time, 7 years after the conclusion of our original investigation, we have undertaken a survey of the present status of these patients for the purpose of gaining more adequate insight into possible prognostic criteria and to determine the effects of the events occurring during the interval upon the present adjustment. Some of these patients were still in the hospital and had never left it, whereas others who had left had subsequently returned. Some of the patients who improved and were sent out in 1941 continued to adjust well, but there were also some who had moved and could not be reached. Finally, a number of

[1] Read at the 104th annual meeting of The American Psychiatric Association, Washington, D. C., May 17-20, 1948.

patients died during the interval. All the patients who could be located were studied wherever they happened to be. The social setting was investigated both by personal observation and on the basis of information obtained from relatives and neighbors, and in the present communication we wish to report a review of this follow-up study.

MATERIAL

Forty-seven patients were included in the original study, 39 female and 8 male. These were classified, depending upon the outcome of the disease at that time, into the following groups: recovered and much improved, improved, unimproved, and worse. Of these patients, 3 could not be reached since they have moved and their present residence is not known. Of the remaining 44, 11 died. This constitutes a death rate about twice as high as that for the normal population of that age. In some of these death was due to factors that did not seem to bear any etiological relationship to the psychiatric condition. In others such a relationship could be established. Thus, for instance, 3 patients who have continued to show progression of their mental symptoms committed suicide. It must be remembered that in this group we were dealing with people of an age at which the death rate would naturally be higher than in the general population. Furthermore, our investigation covered a period (1941-1948) which included the World War II years and was characterized by unusual social and psychological stresses particularly to people of a peculiarly rigid type of personality. It was, therefore, thought justifiable to include the cases who died during this period but on the following basis: Those who had improved and continued to adjust well but died from some intercurrent disease or accident were classified under the group of the "improved." Those, however, who had not improved before their death or those whose death was related to the psychosis (*e.g.* suicide) were classified under the "unimproved and worse."

The 44 cases were then divided into the following 4 groups:

1. Those who had recovered or were improved in 1941 and retained this status in 1948 (21 patients).

2. Those who did not show any improvement in 1941 but began to improve sometime after the conclusion of the original report and remained improved up until the present (6 patients).

3. Those who recovered or showed improvement in 1941 but who suffered relapse and are at present unimproved or worse (9 patients).

TABLE 1

AGE

Age group	Total	I (21)	II (6)	III (9)	IV (8)
49-54	9	6 (28.7%)	0	1 (11.1%)	2 (25.0%)
55-60	14	8 (38.0%)	2 (33.3%)	3 (33.3%)	1 (12.5%)
61-66	14	7 (33.3%)	2 (33.3%)	4 (44.5%)	1 (12.5%)
67-72	7	0	2 (33.3%)	1 (11.1%)	4 (50.0%)
Average: 60.3	44	58.0	63.3	61.1	63.0

4. Those who were classified as unimproved or worse in 1941 and continued in the same status up to the present (8 patients).

An analysis of the findings obtained in this survey yields important information in regard to two aspects of the subject: (1) the degree of reliability of the prognostic criteria established in the original study and (2) the importance of the social setting to which the patient had to adjust himself since 1941 as it affected the subsequent course of the disease.

RESULTS

We wish to present first our findings in regard to the reliability of the prognostic criteria. Four of these, *viz:* the age of the patient, the manner of onset, the premorbid personality, and the intellectual endowment can still be considered as such criteria on the basis of our material as can be seen from the following four tables. In Table 1 we have tabulated our findings in regard to age. As can be seen there is a definite relationship

between the average age of the patient and the outcome, at least as regards groups one and four. In the first group, that is those who had improved and retained this status, the average age is 58 and not one of the cases falls in the group of 67 to 72, whereas the average age of group four, that is those who did not improve, remained so or even got worse, the average age is 63 and most of the cases are in the last age level, *i.e.*, 67 to 72.

A similar consistency is found in regard to the type of onset, as seen in Table 2.

abnormalities in their personalities with special predominance of the pathological features that have so often been found to be the precursors of the involutional psychosis

Finally, in Table 4 we present the prepsychotic intellectual level and its relation to the outcome. The same general trend that we found in our original study has continued here. It is true that the lower intelligence ratings predominate throughout the series but are most commonly found in group one, where they represent 76% of the total.

A careful study of the other factors

TABLE 2

ONSET OF ILLNESS

Mode of onset	Total	I (21)	II (6)	III (9)	IV (8)
Acute	17	10 (47.6%)	4 (66.6%)	2 (22.3%)	1 (12.5%)
Gradual	27	11 (52.4%)	2 (33.3%)	7 (77.7%)	7 (87.5%)

TABLE 3

PREMORBID PERSONALITY

Type	I (20)	II (6)	III (9)	IV (8)
No apparent abnormalities	6 (30.0%)	1 (16.6%)	0	1 (12.5%)
Borderline	6 (30.0%)	1 (16.6%)	2 (22.3%)	0
Seclusive, autistic, underactive, prudish	5 (25.0%)	1 (16.6%)	0	1 (12.5%)
Sensitive, timid, hypochondriacal	3 (15.0%)	3 (50.0%)	5 (55.4%)	3 (37.5%)
Hard-driving, aggressive, stubborn, over-conscientious	0	0	2 (22.3%)	3 (37.5%)

TABLE 4

INTELLIGENCE

Group	Total	I (21)	II (6)	III (9)	IV (8)
Above average	8	3 (14.0%)	1 (16.7%)	3 (33.3%)	1 (12.5%)
Average	13	2 (10.0%)	4 (66.6%)	4 (44.4%)	3 (37.5%)
Below average	23	16 (76.0%)	1 (16.7%)	2 (22.3%)	4 (50.0%)

Here we can see that, whereas the first and second groups contain a high proportion of cases with acute onset, the situation is definitely reversed in groups three and four where the largest number of cases are those with a gradual onset.

In Table 3 we present the types of personality make-up as they are distributed among the four groups. Here, too, it can be seen that there is a definite difference between group one and group four. In group one, 60% of the cases showed either no abnormality in the personality or a borderline type of adjustment. As contrasted with this we find that the majority of patients in groups three and four have shown definite

analyzed in our original publication shows that they are not of any definite value as prognostic criteria. So far as the treatment goes no one single method seems to have had more effect than the others. It must be emphasized, however, that in the particular group that we have studied, no definite conclusions as to therapy were justified. Electroshock treatment had not been introduced to the hospital at that time (1939), and even metrazol was used sparingly. Added to this was the fact that, because of prevailing conditions at this time and a lack of suitable facilities, intensive psychotherapeutic methods were not carried out. A few of the cases were treated with metrazol and in the others

it was mainly a matter of routine sedation, hydrotherapy, and occasional contacts by the physician. This can hardly be considered as a fair trial for any of the methods that have been considered as useful in this or other personality disturbances.

The presence or absence of accompanying somatic disease again did not seem to play an important rôle in the final outcome. The question of whether the patient was married or single and, if the former, whether there were any children or not also did not seem to affect the ultimate outcome in 1948. However, as will be seen later, the type of social setting which was awaiting the patient or could be prepared for him upon discharge was of definite importance.

With this as a background we can now proceed with the analysis of the factors that assumed an active rôle at the time of the conclusion of our last report. By this we mean the general setting to which the patient had to return including the family setup, the economic status, and the occurrence after 1941 of traumatic incidents, either physical or sociopsychological. Of these, perhaps the most impressive relationships were found in regard to the social settings to which the patient had to return. In these we paid special attention to 3 sets of factors:

A. The attitude of the family toward the patient and his return home.

B. The relationship of the patient to his family before the onset of the illness and the rôle it played in the development of the symptoms.

C. Related to both of the above, the patient's own feeling about his family and his desire to return to them.

Taking these factors into consideration we have classified the family settings into (1) *favorable* (where the family was receptive and the patient wanted to return) and (2) *unfavorable* (when either one or both of above were not present). In Table 5 we present the relative frequency of distribution of these 2 in the 4 groups. As we can see, there is a definite difference between group one and group four. By far the largest number of patients in group one returned to a family situation which was favorable. The reverse is true in group four. Perhaps even more revealing is a classification of the cases in regard to the economic status to which they had to return. We classified this into (1) average, and (2) marginal or poor, and the results are shown in Table 6. We can see that group one shows a preponderance of good economic conditions whereas groups three and four definitely show a preponderance of marginal or poor economic conditions.

TABLE 5

FAMILY SITUATION

Type	I (21)	II (6)	III (9)	IV (8)
Favorable	17 (80.9%)	3 (50%)	5 (55.5%)	3 (37.5%)
Unfavorable	4 (19.1%)	3 (50%)	4 (44.5%)	5 (62.5%)

TABLE 6

ECONOMIC LEVEL

Type	I (21)	II (6)	III (9)	IV (8)
Average	11 (52.4%)	3 (50%)	3 (33.3%)	1 (12.5%)
Marginal or poor	10 (47.6%)	3 (50%)	6 (66.6%)	7 (87.5%)

An interesting example of the direct relationship of these factors to the patient's subsequent adjustment can be gathered from the following report.

Patient W. C., married male, age 53, admitted to the hospital July 21, 1939, with feelings of depression, some agitation, suspicions of infidelity against his wife, and a great many somatic complaints. The past history revealed a great deal of dissatisfaction in the marital status with continuous quarreling. Even before the onset of the illness, he expressed suspicions in regard to the wife's faithfulness. He adjusted poorly both economically and socially. While in the hospital he was treated with metrazol and seemed to improve somewhat, but when the question of his return to his home was mentioned there was a definite exacerbation of symptoms. He definitely stated that he did not want to go home and the family did not seem anxious to have him return. This was the status

at the time of the conclusion of our study. Following that an attempt was made to place him on indefinite visit at home and the condition became definitely worse. It was at that time that the social service department undertook to place him in a family-care setup away from his own home town. This was carried through and the patient gradually improved. Three years after admission he had to enter a hospital for prostatectomy. From this the patient convalesced satisfactorily, returned to his family-care setup and since then, during the last 3 years, has been getting along quite well. His condition today is considered much better than it was at the time he left the hospital and perhaps even better than before the onset of the illness. He is working, supporting himself, and making a good social adjustment.

A similar situation is found in relationship to the occurrences of traumatic incidents following the conclusion of our previous study. In evaluating these, however, it is important to take into consideration not only the actual occurrence of traumatic events but their meaning to the patient. As an example we would like to quote the following case:

M. C., widowed female, age 48, was admitted to the hospital October 24, 1939. She showed depression, anxiety, and vague delusions of persecution. Her husband had died shortly after the marriage (in 1917), and she seemed to have made a good adjustment following that, living with her son and her parents. The onset followed 2 rather important traumatic events, namely, the death of her father and, shortly thereafter, hysterectomy because of fibroids. There followed a succession of physiological signs of the menopause, mild depression, agitation and then, in relationship to some severe economic stress, an exaggeration of these symptoms and admission to the hospital. Here an attempt was made to use metrazol treatment but this had been discontinued because of untoward physical symptoms. It was followed by some superficial psychotherapy and occupational therapy to which the patient responded favorably and was placed on indefinite visit with her mother. Her condition continued to improve rapidly and she made a good adjustment until the sudden death of the mother in 1942. She had been very much attached to the mother and dependent upon her, and directly following her death there was a return of the symptoms with the development of progressive deterioration. At present she is considerably worse than she was even on admission to the hospital in 1939. It is obvious that the loss of the mother deprived this patient of the last symbol of security and led to the relapse and deterioration.

Table 7 shows the distribution of traumatic incidents occurring after 1941, in the four groups. It can be seen that in all but one of the cases in groups three and four, *i.e.*, those with the poorest prognoses, such traumatic occurrences took place. It is true that in the first 2 groups a large number of cases show similar occurrences, but it is here that we must take into consideration the nature of the trauma and its meaning to the patient. As an example we would like to refer back to the patient W. C. quoted above. In his case we found that the traumatic significance of his return to an unpleasant home situation was definitely responsible for his relapse. As contrasted with this, the prostatectomy, which so frequently leads to depression in his age group, did not seem to produce any ill effects as long as the patient was assured of the security of returning to an adequate social situation.

TABLE 7

INTERCURRENT TRAUMA AND THE OUTCOME OF ILLNESS

	I (21)	II (6)	III (9)	IV (8)
None	7 (33.3%)	3 (50.0%)	1 (11.2%)	0
Traumatic events	14 (66.6%)	3 (50.0%)	8 (88.8%)	8 (100.0%)

COMMENTS

The results of the present study bring to light a number of points which are of importance not only in relationship to the involutional psychoses but personality maladjustments in general. The most significant as well as the most obvious of these is the demonstration of the importance of an adequate follow-up study, both in regard to the length of the period and the variety of conditions to which the patients had to adjust. The opportunity of observing our patients for a period of 7 years, and of testing their ability to adjust under a variety of conditions has resulted in rendering our prognostic criteria more valid even if less numerous. It also permits a better insight into the interrelationships of the factors that appear to be of importance in influencing both the development and the outcome of the illness. Thus

we see, for instance, that the existence of certain types of pathological personality characteristics (such as hypochondriasis, rigid aggressiveness, seclusiveness, sensitivity, etc.) renders the outcome less favorable, particularly if this is associated with certain types of stress situations in persons of a more advanced age level. As contrasted with this aspect of the problem we can also see from the present study that an involutional psychosis may develop in a person of a comparatively average type of personality, if the stress factors are severe enough. In these cases, however, particularly if the onset is abrupt and the person is of a younger age level, the outcome is favorable.

Thus we find from our present study, and corroborating some of the conclusions of the original one, that the age of the patient, the manner of onset, and the type of personality (including the intellectual level) are important factors in determining the outcome of the illness. The present study, however, has brought to the foreground another series of factors which, from a practical point of view, are much more important, namely, the effect exerted upon the patient by the conditions which he had to meet after the hospitalization. We refer to them as particularly important because from a practical point of view these were factors that could be, at least in some of the cases, manipulated by systematic social service work. The first case (W. C.) quoted above serves as an example of what could be accomplished by such an approach. It is important to note here that, in our experience and probably in the experience of other workers, the success of any method of therapy in the hospital depends for its ultimate results upon the adequacy with which the postinstitutional adjustment is planned.

In summing up the results of our present study we would like to emphasize particularly the following 2 points: (1) Criteria of prognosis in any mental disease, but particularly one of the nature of involutional psychosis, cannot be established with certainty unless a long enough follow-up period has elapsed. It is only under such conditions that we are able to determine operationally the assets and liabilities of the patient in relation to his total situation. (2) Of the various factors which determine the ultimate outcome of the illness, one of the most important is the social setting to which the patient has to return. This means that no type of treatment can be considered as adequate unless it includes a long-range program of social readjustment of the patient.

These findings confirm again our concept of involutional psychosis as a sociopsychiatric disease in the broadest implications of the term.

BIBLIOGRAPHY

1. Brew, M. F., and Davidoff, E. The involutional psychoses, prepsychotic personality and prognosis. Psychiat. Quart., **14**: 412, 1940.

2. Diethelm, O. The psychopathology of aging. Am. J. Psychiat., **99**: 553-556, Jan. 1943.

3. Drobnes, S. Prognostic factors in the involutional psychoses. Am. J. Psychiat., **99**: 818-821, May 1943.

4. Eyman, E. V., *et al.* Statistical survey of the biogenesis of involutional melancholia. Dis. Nerv. Syst., **3**: 16-20, Jan. 1942.

5. Malamud, W., Sands, S. L., and Malamud, I. The involutional psychoses: A sociopsychiatric study. Psychosom. Med., **3**: 4, Oct. 1941.

6. Palmer, H. D., and Sherman, S. H. The involutional melancholia process. Arch. Neurol. Psychiat., **40**: 762, 1938.

7. Prados, M., and Ruddick, B. Depressions and anxiety states of the middle-aged man. Psychiat. Quart., **21**: 410-430, July 1947.

8. Titley, W. Prepsychotic personality of patients with involutional melancholia. Arch. Neurol. Psychiat., **36**: 19, 1936.

COMPARATIVE LYMPHOCYTIC AND BIOCHEMICAL RESPONSES OF PATIENTS WITH SCHIZOPHRENIA AND AFFECTIVE DISORDERS TO ELECTROSHOCK, INSULIN SHOCK, AND EPINEPHRINE [1]

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The inability of schizophrenic patients to respond adequately to social and physical changes in environment has led many investigators to search for underlying metabolic and physiologic disorders. Hoskins and co-workers(1) concluded after extensive studies that practically all schizophrenics are partially defective in one or more of the numerous physiologic and biochemical mechanisms which maintain homeostasis. More recently Hoagland, Pincus, and co-workers(2) have studied the blood lymphocytes in schizophrenic patients before and after exposure to stressful situations. Their patients failed to develop the lymphocytopenia which occurred after stress in normal control subjects. As White and Dougherty(3) and Long(4) had previously demonstrated in animals that the lymphocyte response to stress was dependent on an intact pituitary-adrenal-cortical system, it was concluded that this mechanism was probably defective in schizophrenics(5).

The present report is concerned with further investigation of the response of schizophrenics and other psychotic subjects to such forms of stress as electroshock, insulin coma, and the injection of epinephrine.

Epinephrine was selected as a method of testing pituitary-adrenal functions in patients because, as Long and co-workers have shown, the administration of this substance to animals markedly stimulated adrenal cortex activity. This effect was abolished by hypophysectomy. Therefore epinephrine might be expected to produce a lymphocytopenia in patients if the pituitary and adrenal glands were functioning normally. Epinephrine has the advantage of not requiring much cooperation on the part of patients. Also it is not as traumatic an experience as severe heat, cold, etc., thereby simplifying the problem of obtaining control subjects.

Epinephrine administered by intramuscular injection to normal subjects consistently produced, after an initial lymphocytosis, a significant lymphocytopenia. This later effect may be assumed upon the basis of the work of White and Dougherty and Long to be due to stimulation of the pituitary, which in turn activates the adrenal cortex. A disorder in the pituitary-adrenal relations in schizophrenics would be demonstrated by epinephrine administration, which should not result in a lymphocytopenia as it does in controls.

MATERIAL AND METHODS

Six control men and women in good health were given 0.01 mg. per kilo of epinephrine by intramuscular injection. One subject was studied 3 times and another twice. The circulating lymphocytes and the other leucocytes, chiefly polymorphonuclears, were determined before, and at intervals of ½ to 1 hour up to 5 hours after, intramuscular injection of epinephrine. For comparative purposes and as an indicator of changes in hemoconcentration, hemoglobin and serum proteins were determined. Blood glucose was measured as a check on the effectiveness of the dose of epinephrine.

Eight psychotic patients were given epinephrine and investigated in the same manner as the controls. Electroshock and insulin coma were utilized in testing the reaction of impoverished schizophrenic and other psychotic patients to stressful stimuli. Six

[1] Read at the 104th annual meeting of The American Psychiatric Association, Washington, D. C., May 17-20, 1948.

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affectively impoverished schizophrenic patients, 7 with affective features in the schizophrenic syndrome and 8 nonschizophrenic depressed patients were studied before and after electroshock in the same manner as in the case of the epinephrine experiments. All psychotic patients studied were severely ill and without complicating diseases.

Insulin was given to 8 schizophrenic patients in sufficient amounts to produce coma. The blood lymphocytes, polymorphonuclear leucocytes, hemoglobin, blood glucose, and plasma proteins were measured before, during, and after coma.

As a further test of the capacity of these patients to respond to repeated stress, epinephrine was repeated or given to 5 patients when the lymphocytes had been reduced to approximately the lowest level following either the initial dose or after electroshock. An evaluation of the emotional status of the patients was made and correlated with the determinations of blood constituents.

In order to determine the effect disturbed behavior might have on blood leucocytes the patients were also classified according to presence or absence of marked emotional turmoil—depression, agitation, fear, anxiety, and motor overactivity—as contrasted with the second group that were apathetic, indifferent, and inactive.

The anticipation of receiving electroshock was apparently a stressful experience for many of these patients. On the morning of the test, or on days when controls were run, the patients were kept in bed without food until after the third hour of the experiment. The normal subjects were in a sitting position for the first hour of the experiment, after which they assumed their normal duties, resting in a sitting posture for about 15 minutes before the subsequent blood samples were taken. All subjects were in postabsorptive state until after the third-hour samples. The tests on all cases were started between 8:30 and 9:00 a. m. except for those receiving insulin, which was injected at about 6:00 a. m. The insulin shock was terminated after a period of one-hour coma by intravenous glucose after which orange juice with added glucose was given by mouth.

Blood was obtained from the antecubital vein without stasis. Coagulation was prevented by minimum amounts of 6 parts ammonium and 4 parts potassium oxalate to prevent shrinkage of cells. Trenner Bureau of Standard pipettes were used and 3% acetic acid containing a trace of gentian violet was the diluting fluid. Four chambers were counted for each blood from 2 pipettes. A mechanical shaker was used for mixing the blood before measurement and for mixing the blood with the diluting fluid.

Cover slip smears used for differential counts were stained with Wright's Stain. When the duplicate counts of 200 cells failed to check(7), 800 cells were counted. The lymphocytes were deducted from the total white cell count to give other leucocytes.

Hemoglobin was determined colorimetrically as oxyhemoglobin, using 0.1% Na_2CO_3 as diluent. Glucose was determined by Nelson's(8) colorimetric procedure on Somogyi (9) filtrates. Serum proteins were determined by Weichelbaum's(10) modification of Robinson and Hogden's technique. The Coleman spectrophotometer was used in all colorimeter procedures.

Results

The data for the epinephrine studies are presented in Figs. 1 and 2. The experiment on 6 normal controls (9 tests) revealed immediate increase in lymphocytes. Thirty minutes after injection of epinephrine the circulating lymphocyte count was 15 to 100% above the initial value. The other leucocytes also increased from 12 to 50% during the same interval. Sixty minutes after administration of epinephrine the lymphocytes started to fall and were near the initial level. The other leucocytes responded variably but in most cases they continued to increase and remained high at the 3-hour observation. Subsequently they slowly fell but were still 30% to 80% above normal at 5 hours. In those cases showing an early decrease in other leucocytes there was a subsequent rise as if 2 factors were responsible for the changes.

One-hundred and twenty minutes after the administration of epinephrine the lymphocytes were well below the initial levels. They continued to fall until they reached a minimum between the second and third hour. The circulating lymphocyte reduction was from

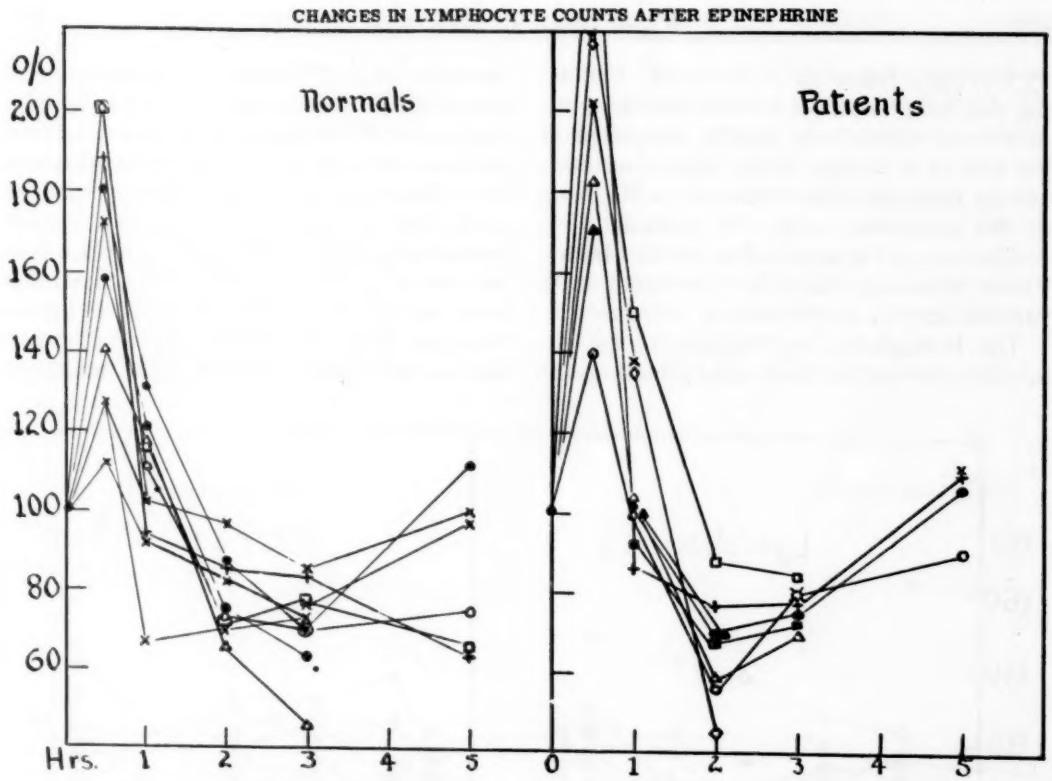

FIG. 1.—Changes in lymphocyte counts after epinephrine.

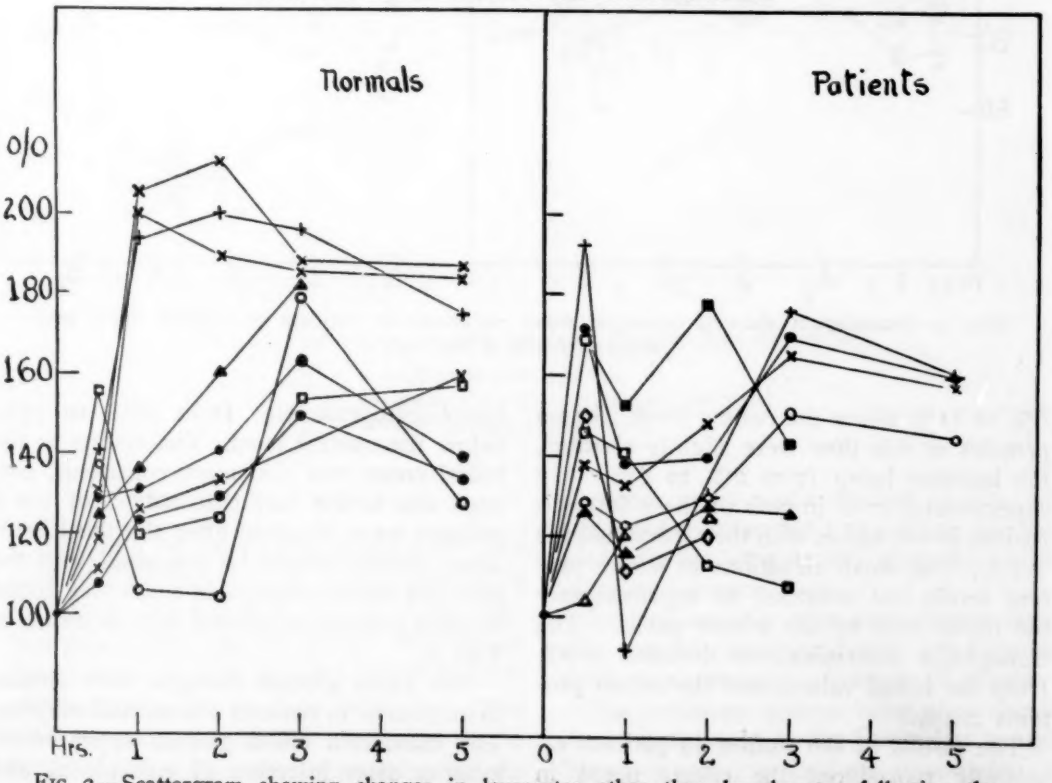

FIG. 2.—Scattergram showing changes in leucocytes other than lymphocytes following the administration of epinephrine.

15% to 55% below the initial level. Following this lymphocytopenia there was a return to normal which was usually completed at the end of 5 hours. There were variations among different individuals as to the time of the minimum count. In 3 cases of 9 control subjects it occurred as late as 5 hours. These variations may be correlated with variable activity of the control subjects.

The hemoglobin was highest at the 30-minute observation with determinations of normals. In all cases the initial rise in lymphocytes was followed by a lymphocytopenia. The changes were somewhat more uniform than in normal subjects. This may have been due to the fact that all patients were kept at bed rest throughout the observation periods. The early lymphocytosis was from 40% to 140% above the initial level and the most marked lymphocytopenia occurred as in the normal subjects between the 2- and 3-hour period. The maximum

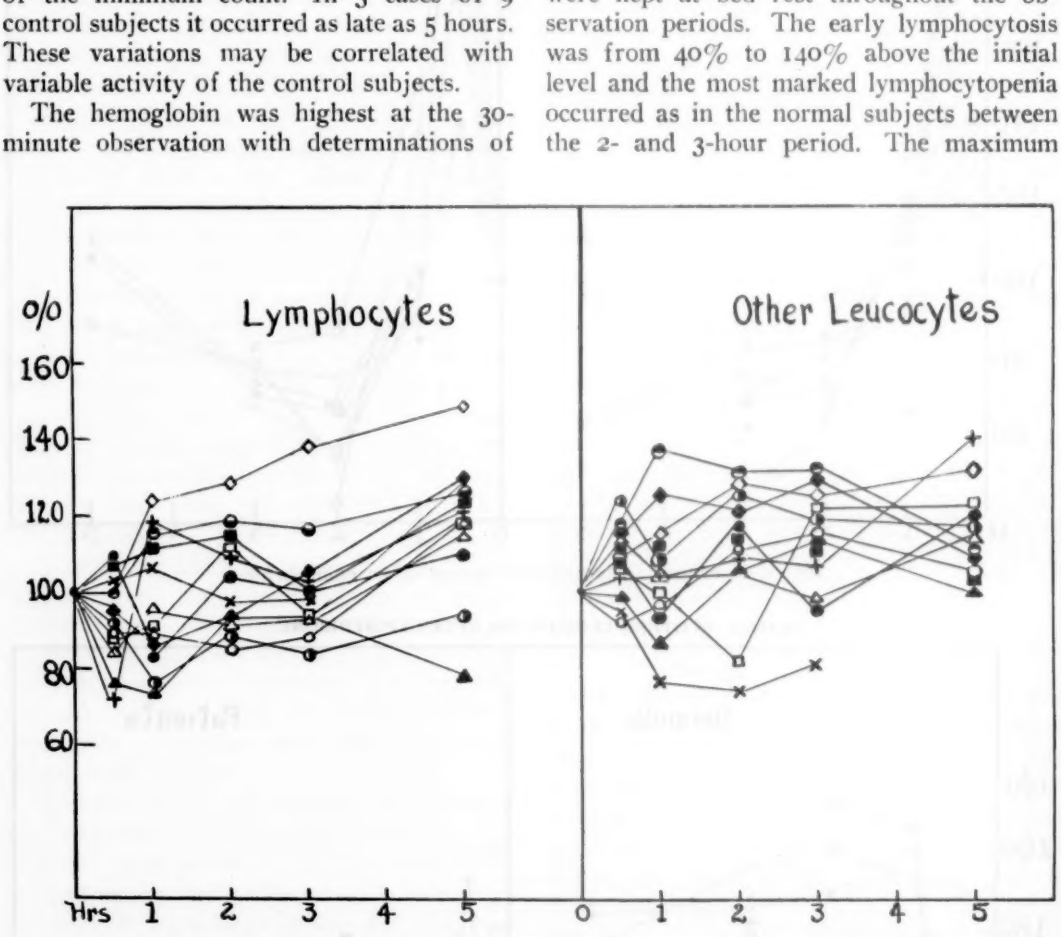

FIG. 3.—Scattergram showing leucocyte count variations in patients on control days, post absorptive and at bed rest.

6% to 11% above the resting level. Serum proteins at this time were slightly elevated, the increase being from 2% to 8%. The experimental error in both of these determinations in our hands with the method used is ±2%. The small elevations in serum protein levels had returned to approximately the initial level by the 2-hour period. The hemoglobin determinations deviated ±6% from the initial values, and the serum proteins ±2%.

The results of the studies on patients essentially reproduced the effects noted in lymphocytopenia was from 15% to 55% below the control level. The return to the initial count was also more consistent, perhaps due to the fact that only 4 of the 8 patients were observed after the third hour. These results should be compared with the plus and minus changes in leucocytes found in some patients on control days as shown in Fig. 3.

The blood glucose changes were similar in magnitude in patients and normal subjects. The maximum blood glucose appeared 60 minutes after injection of epinephrine and

the increase above the resting level was from 30 to 83 mg. per 100 cc., averaging 50 mg. per 100 cc. in the normal subjects. In psychotic patients the blood glucose rise was from 30 to 99 mg. per 100 cc., averaging 59 mg. per 100 cc. The changes in hemoglobin and serum proteins of the patients were of the same order as those observed in the controls.

shock. Within 30 minutes both types of cell had returned toward the preshock level. The lymphocytes continued to decrease rapidly so that by the 1-hour period they were well below the initial value. A minimum of 45% to 70% below the initial figure was reached between 120 and 180 minutes, after which they returned to approximately the normal level within 5 to 6 hours. The polymorphs

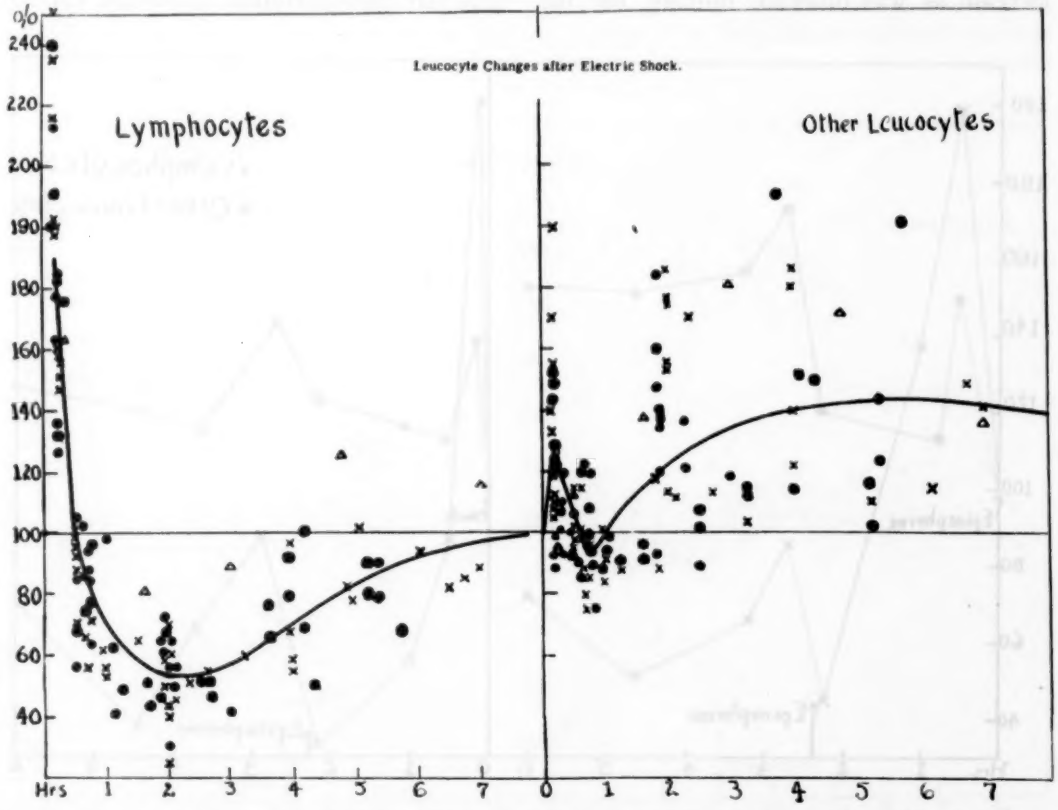

FIG. 4.—Scattergram showing leucocyte changes after electroshock.

×—schizophrenic patients.
●—manic-depressive depressed patients.
Δ—one patient with hysteria.

EFFECT OF ELECTROSHOCK

The data on circulating lymphocytes are presented in Fig. 4. The control studies in this group are shown in Fig. 3. After electroshock there was an abrupt increase in lymphocytes of 50% to 100% above the preshock determination. The other leucocytes also showed a consistent rise of 50% to 80% in the 3- to 5-minute period after the in many cases again started to rise and continued to do so for 1 to 2 hours and then gradually fell but were still above the normal value at 5 hours.

It is noteworthy that there was a somewhat greater lymphocytopenia after electroshock than after epinephrine in all groups.

The maximum glucose value after electroshock was found in the 30-minute sample. Serum proteins and blood hemoglobin in-

creased 7% to 20% immediately following shock, but returned to the initial value in ½ to 1 hour.

Administration of epinephrine after patients had developed lymphocytopenia impaired the capacity of patients to respond to physiologic stress again. Two examples are presented in Fig. 5. The immediate lymphocytosis apparently due to circulatory changes showed about the same percentage increase as was observed initially, but the subsequent lymphocytopenia proceeded only to the previous low level. The return to normal level was somewhat delayed.

The data shown in Fig. 4 demonstrate that the schizophrenic patients developed lymphocytopenia following physiologic stress as rapidly as did the apparently more reactive patients with symptoms of depression and agitation. Furthermore, the apparent emotional status had no demonstrable effect on the number of circulating lymphocytes. The 9 patients manifesting agitation and excitement as a group averaged 2,033 lymphocytes; the group of 8 patients lacking in emotional display averaged 1,955 lymphocytes. The normal control group average was 2,374 lymphocytes.

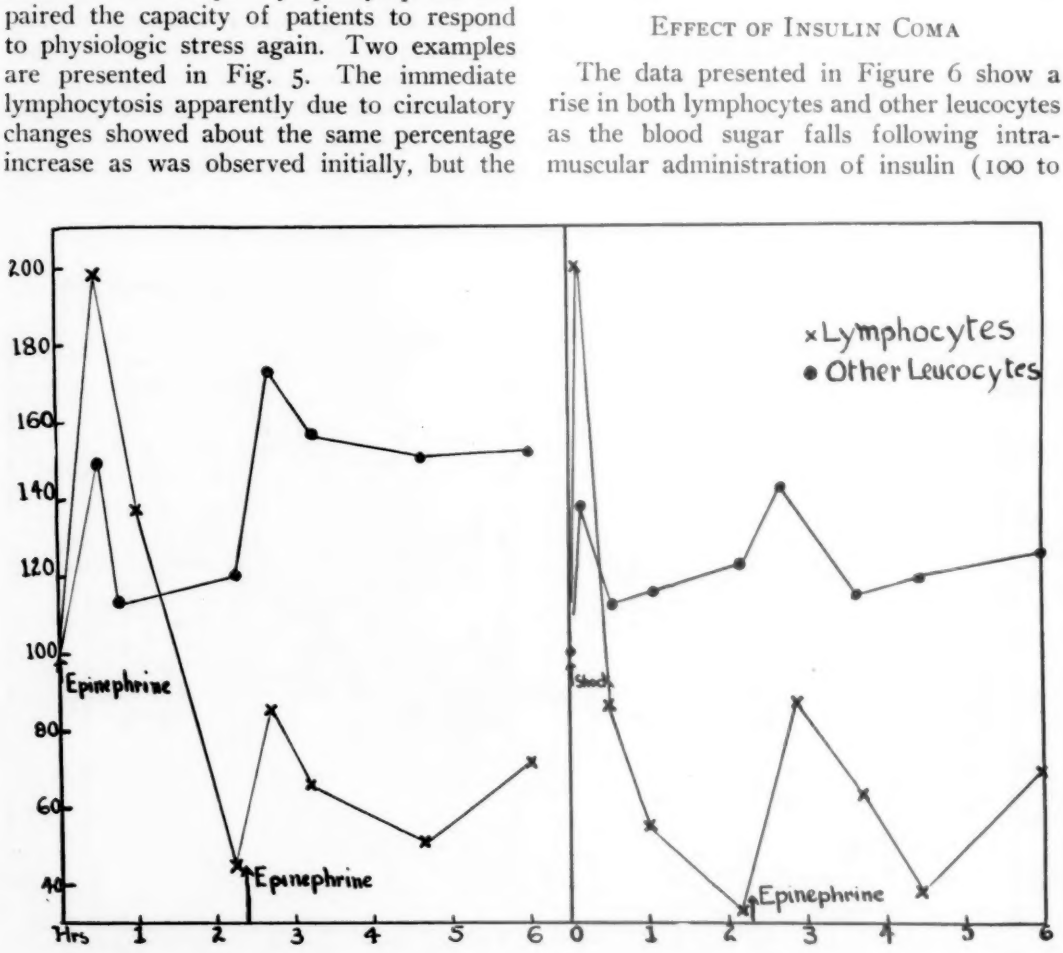

FIG. 5.—Mean changes in lymphocyte and other leucocyte counts in (a) repeated epinephrine administration and (b) epinephrine administration following electroshock.

EFFECT OF INSULIN COMA

The data presented in Figure 6 show a rise in both lymphocytes and other leucocytes as the blood sugar falls following intramuscular administration of insulin (100 to 150 units). Ninety minutes after injection, when the blood glucose was between 5 and 17 mg. per 100 cc., the lymphocyte count was 25% to 75% above the initial level and the other leucocytes were increased between 30% and 85%. Three hours after insulin administration, coma was terminated by glucose. At this time while the blood glucose remained low, a significant reduction in the lymphocytes had occurred. The maximum lymphocytopenia occurred between the first and third hour after giving glucose. The other leucocytes continued to rise rather

variably. In patients whose reaction was uncomplicated by convulsions, the maximum count was found about 1 hour after coma was terminated. After this time the other leucocytes tended to fall, but were still above the initial value at the end of the 5-hour sample. In those patients that had convulsions the other leucocytes increased to very high and variable levels and decreased more rapidly after glucose was given. The convulsions produced less irregularities in the rapidly decreasing lymphocytes.

as normal subjects. The degree of lymphocytopenia resulting from epinephrine administration in the schizophrenics was practically the same as that in the control subjects. Electroshock produced a similar degree of lymphocytopenia as occurred after epinephrine. From the experimental work of White, Long, and co-workers the lymphocytopenia following stress is dependent upon an intact pituitary-adrenal system. We can conclude, therefore, that the pituitary-adrenal relationships in the schizophrenics are not impaired.

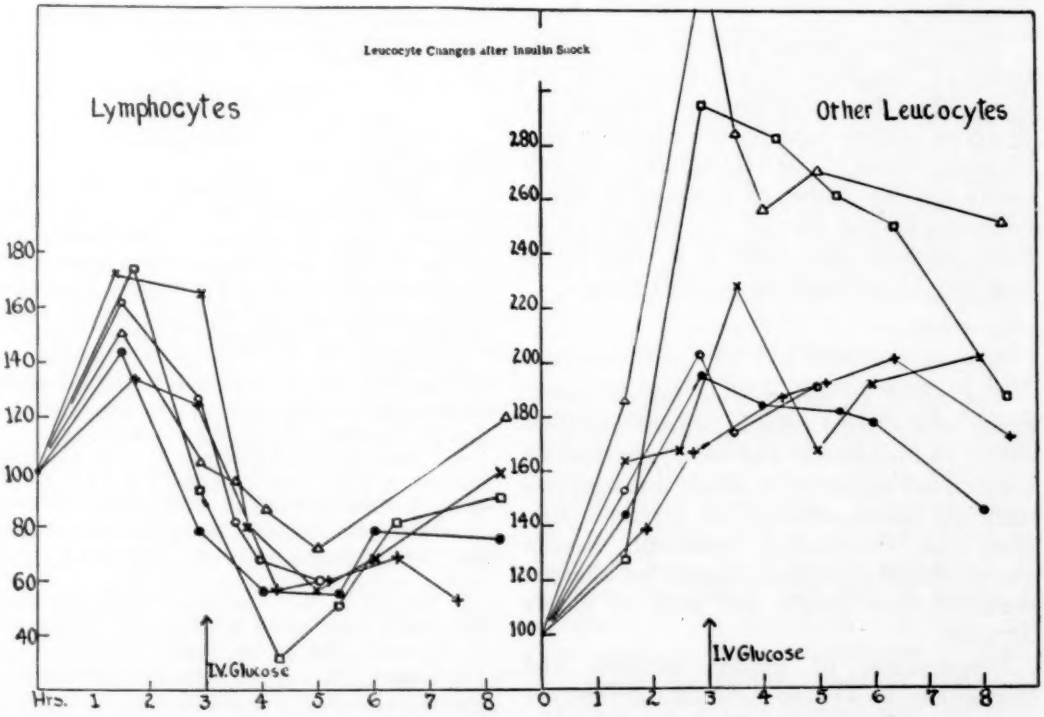

FIG. 6.—Scattergram showing leucocyte changes in insulin shock therapy.

It should be mentioned that the hemoglobin increased in the insulin coma cases to values 16% above normal. Serum proteins in these cases also showed increases of 8% to 12%. These increases were not maintained for long and probably represent changes in blood volume rather than formation of new protein.

DISCUSSION

These experiments indicate that schizophrenic patients and patients with manic-depressive psychosis react to physiologically induced stress in very much the same way

In contrast to these findings psychological stress experienced by psychotic patients does not appear to produce the metabolic changes that occur in normal subjects. In this study the lymphocytes in the calm or apathetic schizophrenics were neither higher nor lower than they were in the excited patients. In fact the average count taken before breakfast was practically the same in the excited, agitated, or depressed manic-depressives as in the indifferent or apathetic schizophrenics and, in turn, was the same as in normal control subjects. The stressful situation of being prepared for electroshock produced no

demonstrable deviation in the lymphocyte count. This lack of response to psychologic stress is also found in blood sugar determinations. This failure of patients manifesting pathological states of emotional behavior to mobilize blood glucose has been reported by a number of previous investigators. It appears therefore that the disorder in the psychotic patients which prevents the development of lymphocytopenia or hyperglycemia in response to psychological stress involves a defect in the communications between the central nervous system and the endocrine system.

These observations confirm the experiments of Hoagland, Pincus, Elmadjean, and co-workers that schizophrenic patients are defective in their capacity to respond to psychologic stress. The epinephrine experiments and the studies of response to shock, however, do not support the contention of these workers that there is a disorder in function of pituitary or adrenal cortex.

Conclusions

The effect of epinephrine on the circulating white blood cells in normal and psychotic (schizophrenic and manic-depressive) subjects are shown to be similar and approximate the effects obtained on psychotic subjects after electroshock treatment. Insulin also produced a lymphocytopenia but changes occurred more slowly and were of longer duration.

Investigation of plasma proteins and hemoglobin showed no significant differences in changes following epinephrine injection. After electroshock there was an immediate increase in serum proteins and hemoglobin with a return to preshock amounts in ½ to 1 hour. The lymphocytopenia occurred later and could not therefore be accounted for by hemodilution.

It is concluded that the circulating lymphocytes in psychotic subjects respond to epinephrine in the same way as do the controls. Furthermore, electroshock and insulin coma produce a lymphocyte response similar to that following epinephrine. These data do not support the contention that there is a disorder of pituitary-adrenal function in psychotic patients. On the other hand, apparently stressful psychologic disturbances in psychotic patients are not accompanied by lymphocytopenia or hyperglycemia. In this respect they differ from normal subjects. It is suggested therefore that there is a defect in psychotic patients which obstructs communication between the central nervous system and the endocrine system.

Bibliography

1. Hoskins, R. G. Biology of Schizophrenia. Norton, New York, 1946.

2. Hoagland, H., Elmadjean, F., and Pincus, G. Stressful psychomotor performance and adrenal cortical function as indicated by the lymphocyte response. J. Clin. Endocrinol., **6**: 301, 1946.

3. Dougherty, T. F., and White, A. First alteration in lymphoid tissue induced by adrenal cortical secretion. Am. J. Anat., **77**: 81, 1945.

4. Long, C. N. H. The relation of cholesterol and ascorbic acid to the secretion of the adrenal cortex. Recent Progress in Hormone Research. Vol. 1. Academic Press, New York, 1947.

5. Pincus, G., and Elmadjean, F. The lymphocyte response to heat stress in normal and psychotic subjects. J. Clin. Endocrinol., **6**: 295, 1946.

6. Elmadjean, F., and Pincus, G. Adrenal cortex and lymphocytopenia of stress. Endocrinol., **37**: 47, 1945.

7. Barnett, E. W. The unavoidable error in the differential count of the leucocytes of the blood. J. Clin. Investigation, **12**: 77, 1937.

8. Nelson, N. A photometric adaptation of Somogyi's method for determination of glucose. J. Biol. Chem., **153**: 375, 1944.

9. Somogyi, M. Determination of blood sugar. J. Biol. Chem., **160**: 69, 1945.

10. Weichelbaum, T. E. An accurate and rapid method for the determination of proteins in small amounts of blood serum and plasma. J. Clin. Path., **7**: 41, 1946.

11. Gildea, E. F., Mailhouse, V. L., and Morris, D. P. The relationship between various emotional disturbances and the sugar content of the blood. Am. J. Psychiat., **92**: 115, 1935.

PSYCHOSURGERY

Retrospects and Prospects Based on Twelve Years' Experience [1]

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The development of new operations upon the brain for the relief of mental symptoms is a healthy sign of interest in this field of psychosurgery. These new operations represent essentially a postwar phenomenon, since for a number of years following the introduction of prefrontal lobotomy into this country by Freeman and Watts(1) the only variant proposed was the so-called open operation practiced by Lyerly(2). Now the psychiatrist, contemplating surgery as a means for altering the reactions of a chronically ill patient in whom conservative measures have failed, has a rather wide choice of procedures to consider. Topectomy, which was introduced by Heath and Pool(3), is a modification of the gyrectomy undertaken by Penfield(4) but not reported until he had been able to follow his patients for several years. Thalamotomy was introduced by Spiegel, Wycis, and their collaborators (5) and has in a measure confirmed the predictions of Freeman and Watts(6) that the essential anatomic change associated with social improvement in patients after lobotomy was located in the thalamus. Scarff (7) has recently reported the relief of pain by unilateral frontal lobotomy. Temporal lobotomy was described by Obrador(8) and parietal lobotomy by Yahn(9) but the results were inferior. Frontal lobectomy as treatment for mental disorder was first practiced by Ody(10) as a unilateral approach, and later by Peyton(11) as a bilateral operation, with results equivalent to lobotomy. A case of occipital lobotomy (or lobectomy?) in a psychotic individual who blinded himself has been rumored. Transorbital lobotomy was first carried out by Fiamberti(12) and developed in this country by Freeman(13). Cortical undercutting has been reported by Scoville(14).

As far as most of these operations are concerned, only frontal lobotomy has been practiced long enough to give a chance for assessment of long-range results. When Freeman and Watts reported their first series of 20 cases in November 1936(15) Adolf Meyer opened the discussion on a sympathetic note:

"I am not antagonistic to this work but find it very interesting. I have some of those hesitations about it that are mentioned by other discussants, but I am inclined to think that there are more possibilities in this operation than appear on the surface. I do not think that the relief afforded the patients is so much a shock result as utilization of some things we are learning concerning the frontal lobes and their rôle in the functioning of the personality. I should hesitate to promise that we could remove distraction and worries by operation. To call attention to what is possible might start an epidemic of hasty human experimentation. After all, any interference with the brain, such as is contemplated in this operation, makes reductions which cannot be repaired. The work should be in the hands of those who are willing and ready to heed the necessary indications for such a responsible step and to follow up scrupulously the experience with each case. The available facts are sufficient to justify the procedure in the hands of responsible persons, but it is important that the public should not be drawn into any unwarranted expectations. At the hands of Dr. Freeman and Dr. Watts I know these conditions will be lived up to."

Watts and I took these encouraging words to heart and have maintained contact with patients subjected to prefrontal lobotomy. From time to time we have published results in our cases(16-19), not only as regards our estimate of the results, but possibly more importantly as regards their capacity to function in society. The results in the original 20 cases operated upon in 1936 were duly reported in 1947(20). Of the 14 survivors, 4 were employed, 4 were keeping house, 4 were living at home and only 2 were insti-

[1] From the Department of Neurology and Neurological Surgery, George Washington University School of Medicine.

tutionalized. By the time that the annual survey had been completed in 1948 there were 623 cases, not one of which was lost sight of. I do not need to stress the efforts that have been made by personal interview, letter, telegram, and long-distance telephone to achieve these follow-up studies. Some patients are now known to be living as far away as Venezuela, Eire, and Australia. In a way it speaks volumes for the rapport established by lobotomy that such a complete follow-up has been feasible.

usefully occupied outside an institution. The big factor in this result is the fact that during the long period of hospitalization the families of such patients have closed ranks, and the patients no longer have homes to go to.

As Watts and I have indicated(21, 22) we chose our patients largely upon the basis of the availability of family care, although about 50 lobotomies have been carried out at Saint Elizabeths Hospital upon the uncontrollably violent patients. A separate

TABLE 1

STATUS OF LIVING PATIENTS ONE YEAR OR MORE AFTER PREFRONTAL LOBOTOMY

Diagnosis	No.	Employed	Partly employed	Keeping house	Home	Institution	Total
		%	%	%	%	%	%
Involutional psychoses	107	7	4	44	29 *	16 †	100
Obsessives	98	46	7	15	22	10	100
Schizophrenias	190	17	15	7	33	28	100
Pain	6	50	..	..	33	17	100
Total	401	22	9	19	29	21	100

* Includes 9 patients who retired after working or keeping house for a year or more.
† Includes 4 patients who retired after working or keeping house for a year or more.

TABLE 2

RESULTS OF PREFRONTAL LOBOTOMY

Diagnosis	No.	Good	Fair	Poor	Death		
					Operative	Later *	Recent cases †
		%	%	%	%		
Involutional psychoses	147	55	28	15	2	19	11 ‡
Obsessives	125	71	19	6	4	5	2
Schizophrenias	332	41	42	16	1	11	78 §
Pain	19	46	18	..	36	4	10 ‖
Total	623	52	32	13	3	39	101

* Patients who died later are included in the tabulation as to results during life.
† Recent cases are not included in the tabulation except for those instances noted in the following footnotes.
‡ One of these cases is also listed in the later deaths column.
§ Two of these cases are also listed in the later deaths column.
‖ Two of these cases are listed in the later deaths column and two in the operative deaths column.

The results of this follow-up study are presented in Tables 1 and 2.

In the assessment of the newer psychosurgical operations it is essential to have comparative figures. These given in the accompanying tables are presented as a standard with which the results of other interventions may be compared. There are 2 main objections that may be made against them, both dealing with the choice of material. Operations carried out in state hospitals for the purpose of giving relief to the chronically ill and uncontrollably disturbed patient will reveal a much smaller proportion of patients

study by Stevens(23) has been made upon some of these patients. The report of the Board of Control, England and Wales(24), covering 1,000 cases of frontal lobotomy shows what may be expected with less rigorous selection of patients for operation. Thirty-five percent of these patients had been discharged from hospital, 32% were improved in their hospital adjustment, and only 1% were considered worse. It is fairly obvious, from the comparison of the British experience with that of Freeman and Watts, that the British base line is too low. We believe that much of this spread is due to dif-

ferent operative methods, since the precision lobotomy devised by Watts(25) has, according to Poppen(26), "been developed to an uncanny degree of accuracy."

The other factor is the choice of patients dying of malignant conditions in which lobotomy is carried out for the relief of pain. There will be few long-term results available in such cases since most of these patients live only a few months after operation.

The figures recently presented by Lewis (27) on cerebral topectomy are noteworthy. "Ten months after operation 11 of the 24 operated patients were still outside the hospital leading useful, normal lives." It is to be hoped that as satisfactory figures as these will be reported on 10 times this number of patients after a lapse of 10 years. However, when Lewis states concerning lobotomy: "Generally speaking one-third of the patients are improved, one-third unchanged, and one-third worsened by the operation," he is speaking too generally. This brief report is a partial answer to his further statement: "There is little or no information concerning the long-time outcome of the successful operation."

Two further considerations should influence the psychiatrist in his choice of operation upon the patient: mortality and convulsive seizures. Prefrontal lobotomy has a fatality rate in the neighborhood of 3%, as reported by the British experience. The open operation in the hands of skilled surgeons like Love(28) and Poppen(26) has seen a reduction below 2%. No fatalities have followed topectomy and only one in my series of more than 200 transorbital lobotomies. Operative mortality statistics with regard to other operations are not adequate because of the small number of cases.

Convulsive seizures follow any injury to the brain in a certain percentage of cases. As far as lobotomy is concerned it may be stated that liability to convulsions is directly proportional to the amount of damage. Thus, an uncomplicated lobotomy is followed in 7% by one or more convulsions. An uncomplicated lobotomy following a long series of shock treatments, or a revised lobotomy (two or more operations), is followed by convulsions in some 20%. Lobotomies complicated by hemorrhage, infection, excessive shock therapy (2 of the Freeman and Watts series were subjected to more than 200 electroshock treatments) and kept under close observation, are followed by convulsive seizures in some 30%. Convulsions are not necessarily disabling, and they tend to disappear in the course of time and with medicinal treatment, but they are embarrassing to the surgeon and distressing to the families of patients. It should be noted, however, that convulsive seizures are sometimes beneficial to the patient as far as his adjustment is concerned, and some of the disagreeable symptoms persisting after lobotomy, either consequent upon the operation or "echo" symptoms of the psychosis, may be favorably influenced by postoperative electroshock therapy. The incidence of convulsive seizures cannot be adequately estimated until some 5 years have elapsed after operation. From the theoretical standpoint, based upon the extent of cortical injury, thalamotomy should give the lowest incidence of convulsive seizures, and transorbital lobotomy the next lowest.

Prospects for psychosurgery are increased adherence to some of the principles that have been expressed by Freeman and Watts(22): choice of patient, choice of operation, and choice of family. When these criteria are satisfactorily met, the operation proves its value in many cases of disabling mental illness.

BIBLIOGRAPHY

1. Freeman, W., and Watts, J. W. Prefrontal lobotomy in agitated depression; report of case. Med. Ann. District of Columbia, **5**: 326, 1936.

2. Lyerly, J. G. Prefrontal lobotomy in involutional melancholia. J. Florida M. Ass., **25**: 225, 1938.

3. Heath, R. G., and Pool, J. L. Bilateral fractional resection of frontal cortex for the treatment of psychoses. J. Nerv. and Ment. Dis., **107**: 411, 1948.

4. Penfield, W. Res. Publ. Ass. Research. Nerv. and Ment. Dis., **27**: 519, 1948.

5. Spiegel, E. A., Wycis, H. I., Marks, M., and Lee, A. J. Stereotaxic apparatus for operations on the human brain. Science, **106**: 349, 1947.

6. Freeman, W., and Watts, J. W. Retrograde degeneration of the thalamus following prefrontal lobotomy. J. Comp. Neurol., **86**: 65, 1947.

7. Scarff, J. E. Unilateral lobotomy with relief of ipsilateral, contralateral and bilateral pain. Dig. Neurol. and Psychiat., **17**: 410, 1948.

8. Obrador Alcalde, S. Temporal lobotomy. J. Neuropath. and Exper. Neurol., **6**: 185, 1947.

9. Yahn, M., Mattos Pimenta, A., and Sette, A., Jr. Leucotomia parietal; resultados em 22 pacientes. Arq. de Neuro-Psiquiat., **6**: 225, 1948.

10. Ody, F. Le traitement de la démence precoce par résection du lobe préfrontal. Arch. ital. de chir., **53**: 321, 1938.

11. Peyton, W. T., Noran, H. H., and Miller, E. W. Prefrontal lobectomy (excision of anterior areas of the cerebrum). Am. J. Psychiat., **104**: 513, 1948.

12. Fiamberti, A. M. Considerazioni sulla leucotomia prefrontale con il metodo transorbitario. Gior. di psichiat. e di neuropat., **67**: 291, 1939.

13-a. Freeman, W. Transorbital lobotomy; preliminary report of ten cases. Med. Ann. District of Columbia, **17**: 257, 1948.

13-b. Ibid. Transorbital leucotomy. Lancet, **2**: 371, Sept. 4, 1948.

14. Scoville, W. B. International Conference on Psychosurgery. Dig. Neurol. and Psychiat., **17**: 529, 1948.

15. Freeman, W., and Watts, J. W. Prefrontal lobotomy in the treatment of mental disorders. South. M. J., **30**: 23, 1937.

16. Freeman, W., and Watts, J. W. Prefrontal lobotomy; six years' experience. South. M. J., **36**: 478, 1943.

17. Freeman, W., and Watts, J. W. Psychosurgery; an evaluation of two hundred cases over seven years. J. Ment. Sc., **90**: 532, 1944.

18. Freeman, W., and Watts, J. W. Psico-Cirugia; Lobotomia prefrontal en 258 casos. Rev. Argent. de Neurol. y Psiquiat., **10**: 69, 1945.

19. Freeman, W., and Watts, J. W. Prefrontal lobotomy; survey of 331 cases. Am. J. M. Sc., **211**: 1, 1946.

20. Freeman, W., and Watts, J. W. Psychosurgery during 1936-1946. Arch. Neurol. and Psychiat., **58**: 417, 1947.

21. Watts, J. W., and Freeman, W. Prefrontal lobotomy; factors influencing prognosis. South. M. J., **108**: 241, 1946.

22. Freeman, W., and Watts, J. W. Prefrontal lobotomy; indications and contraindications. Med. Ann. Dist. of Columbia, **16**: 355, 1947.

23. Stevens, H. Use of prefrontal lobotomy in schizophrenia. Quart. Rev. Psychiat. and Neurol., **3**: 106, 1948.

24. Board of Control (England and Wales). Results in 1000 Leucotomies. London, H. M. Stationery Office, 1947.

25. Watts, J. W., and Freeman, W. Surgical aspects of prefrontal lobotomy. J. Internat. Coll. Surgeons, May-June, 1942, p. 233.

26. Poppen, J. L. Prefrontal lobotomy. Technic and general impressions based on results in 470 patients subjected to this procedure. Dig. Neurol. and Psychiat., **17**: 403, 1948.

27. Lewis, N. D. C. Cerebral topectomy. Am. J. Psychiat., **105**: 151, 1948.

28. Peterson, M. C., and Love, J. G. Graded incisions of the frontal lobes. Internat. Conf. Psychosurg., 1948 (to be published).

THE INFLUENCE OF ELECTROCONVULSIVE TREATMENT ON BLOOD SUGAR, TOTAL NUMBER OF LEUCOCYTES AND LYMPHOCYTES [1]

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The curative mechanism of electroconvulsive treatment is still obscure, and therefore any knowledge of the physiological changes involved may eventually contribute to an understanding of this mechanism. Observations in the literature indicate that there is a transient hyperglycemia associated with electrically induced convulsions (Shepley and McGregor(8), Elliott *et al.*(3), Ewald and Haddenbrook(4), Kalinowsky and Hoch (7)). The reports on changes in the blood picture are inconclusive (Felici(5), Carse and Slater(2)).

In the following study an attempt is made to correlate the changes of blood sugar, total white blood cells, and number of lymphocytes associated with electric shock treatment in various psychiatric disorders. Moreover, it appeared necessary to deviate from the procedure of previous investigators by studying these changes during a series of consecutive treatments; in this manner one could establish whether one given patient maintains a definite pattern of response.

Subjects.—Patients were chosen at random regardless of the nature of the psychiatric condition for which they were treated. Thirty-four subjects receiving electroconvulsive therapy were studied. Their ages ranged from 26 to 68 years. The group included 4 schizophrenic patients, 6 patients with involutional melancholia, 2 with postpartum psychosis, 2 with obsessive-compulsive states, and 6 suffering from depressive phases of manic-depressive disorders. The remaining cases suffered from severe psychoneurotic forms of depression. In addition, 3 patients were studied who were undergoing a course of adrenalin desensitization treatment (Cameron(1)).

Method.—In one group of cases the cortical stimulation was carried out with an alternating current applied by bitemporal electrodes; in another group with unidirectional direct current applied by one vertical and one temporal electrode. Venous blood was drawn about 20 minutes before the shock was administered, and again after the convulsion within 10 minutes and at 20, 30, and 60 minute intervals. In all cases but one, 3.5 to 7.5 gr. of sodium amytal were injected prior to treatment. The blood was collected in bottles, opalated accurately for 3 cc. The blood sugar was determined in all cases. Increase of less than 10% was considered due to experimental error. In 29 of the 34 subjects these tests were made on a series of 2 or more treatments. In 15 patients leucocyte and lymphocyte counts were determined in addition to the blood sugar. In 9 of these patients the determinations were carried out throughout the entire day and also on control days on which electric shock was not administered. Leucocyte counts were carried out in duplicate and the differential counts were made on 300 cells. In 4 patients the sugar and leucoctye response to the intravenous injection of .06 mgm. of adrenalin (in doses of .01 mgm. every 10 minutes) was studied.

Results.—In the majority of cases electric convulsion was followed by a rise in blood sugar and in all cases by a rise in total leucocytes and lymphocytes. These values tended to return to the normal level within one hour. No rise in blood sugar occurred in 6 of the patients. In the remaining cases the intensity of the blood sugar response varied from 10% to 60%, but this variation could not be correlated with any particular type of psychiatric condition or any particular technique of cerebral stimulation (see Table 1). However, each patient showed a tendency to maintain his individual type of

[1] From the Gerontologic Unit, Department of Psychiatry, McGill University. This study was aided by a grant from the National Research Council of Canada.

TABLE 1

AVERAGE INCREASE IN BLOOD SUGAR, WHITE BLOOD CELLS, AND TOTAL NUMBER OF LYMPHOCYTES IMMEDIATELY FOLLOWING ELECTROSHOCK THERAPY

Name	Diagnosis	Sex	Age	No. of treatments studied	Average % increase			Remarks
					mg % Sugar	WBC	Lymph	
JO	Involutional melancholia	F	53	4	+ 4	.....	.....	Hippuric acid excretion: 1.09 gm. B.S.P. 30 min: 1% retention. Glucose tolerance curve normal.
DAVI	Psychoneurotic depression	M	21	1	+12.2	.....	.....	
McD	Involutional melancholia	F	64	2	+21	.....	.....	
O'S	Involutional melancholia	M	42	2	+ 3	.....	.....	
PR	Involutional melancholia	M	65	1	+34	.....	.....	
KA	Postpartum depression	F	27	3	+ 9	.....	.....	
KE	Functional depression	M	50	3	+14	.....	.....	
RA	Endogenous depression	M	63	2	+60	.....	.....	ECT administered without Na-amytal.
RUT	Endogenous depression	F	44	1	+15	.....	.....	
RU	Obsessive compulsion	F	35	1	+21	.....	.....	
AL	Depression	F	33	5	+20	.....	.....	
BR	Depression with hysteria	F	61	2	+13	.....	.....	
DAV	Anxiety depression	M	54	1	+32	.....	.....	
DU	Anxiety depression	F	42	4	+28	.....	.....	
HU	Manic depression	F	43	3	+18	.....	.....	
McK	Psychoneurotic hysteria	F	26	2	+30	.....	.....	
TU	Psychoneurotic hysteria	F	32	1	+22	.....	.....	Normal glucose tolerance curve.
SA	Anxiety	M	53	4	+21	.....	.....	Normal glucose tolerance curve.
STE	Depression	F	53	5	+29	.....	.....	
GR	Schizophrenia	M	26	6	+26	+ 38	+ 70	
LE	Schizophrenia	M	40	1	+40	+ 12	+ 20	
ST	Schizophrenia	F	34	2	+34	+ 15	+ 31	
TH	Schizophrenia	M	43	3	+ 9	+ 44	+ 63	
GOO	Involutional melancholia	M	47	3	+17	+ 56	+151	
O'N	Involutional melancholia	M	63	2	+13	+ 33	+ 56	
BI	Postpartum depression	F	28	3	+15	+ 34	+ 61	
PRI	Cyclic dipsomanic	M	45	2	+17	+ 55	+ 94	
DA	Recurrent functional depression	F	38	7	+29	+101	+172	Normal glucose tolerance curve.
GA	Recurrent endogenous depression	M	54	5	+ 9	+ 42	+ 72	
GO	Obsessive compulsion	F	32	2	+ 5	+ 15	+ 43	
CL	Manic depression	M	41	2	+10	+ 54	+102	
CO	Psychoneurosis	M	68	2	+47	+ 48	+102	
SC	Psychoneurosis	F	45	2	+30	+ 41	+100	
HA	Anxiety depression	F	53	2	+41	+ 36	+ 25	
KI	Anxiety depression	M	50	2	+20	+ 39	+ 66	

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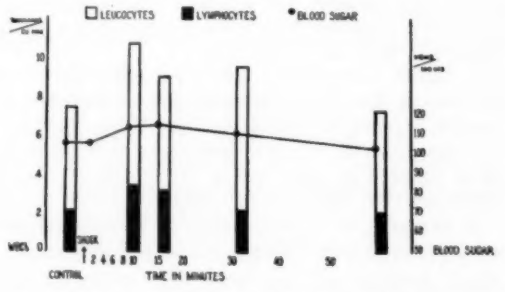
reaction after several shock treatments. The presence or absence of therapeutic success was not reflected in the pattern of the response.

The white blood cells increased from 10% to 100% and the lymphocytes showed a rise of from 25% to 172%. The peak of the leucocyte count occurred within 10 minutes after electric shock treatment, whereas the blood sugar normally reached a maximum level not before 15 minutes and in some cases not until after 30 minutes.

Adrenalin curves: 3 of the 4 patients whose response to adrenalin was investigated had been subjected to adrenalin desensitization (Cameron(1)) for periods ranging from 10 months to 2 years. The one who had been



GRAPH 1.—A composite picture of 16 cases showing average change in leucocytes and total number of lymphocytes, and of 34 cases showing average change in blood sugar following electroshock therapy.

receiving adrenalin for only 10 months showed a steep rise in blood sugar and leucocytes, while the others who had been under treatment for 1½ and 2 years respectively exhibited no appreciable change. The fourth patient (Ga) had never before received adrenalin but had been investigated by us during electric shock therapy and had failed to show a hyperglycemic response. His sugar and leucocyte level remained unchanged after the adrenalin injection.

Discussion.—Our observations show that electrically induced convulsions are in the majority of cases associated with a rise in blood sugar and in all cases with an early rise in leucocytes with lymphocytosis. A mathematical evaluation of these findings showed them to be statistically significant. This corresponds to similar observations on blood sugar levels (Kalinowsky and Hoch (7)) and on leucocyte response (Carse and Slater(2)). However, the present observations show that the typical postconvulsive hyperglycemia is not observed in all patients, and that the individual pattern of reaction of any given patient is maintained throughout a series of treatments. The latter phenomenon excludes at the same time the possibility of a technical error. It has been shown (Gellhorn and Kessler(6)) that the influence of electrically induced convulsions on the blood sugar level of rats can be characteristically abolished by adrenalectomy and increased by vagotomy. This suggests that an adrenal mechanism is involved in raising the blood sugar following electrically induced convulsions. This appears emphasized by the fact that one patient in our series who showed no blood sugar response to electrically induced convulsions also failed to show blood sugar response to the injection of adrenalin. It is interesting to see that none of the patients undergoing electric shock therapy failed to show at least a moderate increase of leucocytes with lymphocytosis. Since this reaction is present even in those patients who do not show the typical blood sugar response, it is very strongly suggested that the leucocyte and lymphocyte response is not altogether of adrenal origin but may be partly mechanical; Wiggers(9) has postulated that the leucocytosis following convulsions is due to release of leucocytes from unused capillaries, and that the lymphocytosis may be due to increased lymph flow during violent muscular contractions.

We were unable to correlate the type of blood sugar response with any particular clinical feature. For instance, one might assume that a failure to react to electric shock with hyperglycemia could be a question of liver function; in other words, although the adrenal response may be present, the effector organ fails to react. Nevertheless, in one patient who showed such absence of postconvulsive hyperglycemia the sugar tolerance test, hippuric acid synthesis, and bromesulphalein retention test were all found to be normal. From the fact that the blood sugar response as well as the leucocyte response remained constant in any given individual, and both were independent of the course of the psychiatric condition, it seems

that these responses reflect something in the patient's constitution which we are at present unable to assess.

Summary and Conclusions.—The changes in blood sugar level, leucocyte count, and absolute lymphocyte count were studied in patients undergoing electric shock therapy. The blood sugar and white blood cell response to the injection of adrenalin was observed in 4 subjects.

In all cases electric shock was associated with leucocytosis and lymphocytosis, and in the majority of cases (28 out of 34) a hyperglycemia was observed. The values returned to normal within an hour of treatment. On mathematical evaluation the findings were seen to be statistically significant.

The type of response was not correlated to the underlying psychiatric conditions; where a series of treatments was followed in one single individual, the pattern of response was maintained throughout, irrespective of change in the psychiatric condition of the patient.

The hyperglycemia appeared to be the result of autonomic stimulation, while the leucocytosis and lymphocytosis seemed due, at least in part, to the mechanical effect of muscular contraction.

BIBLIOGRAPHY

1. Cameron, D. E. Adrenalin administration in persistent anxiety states. Am. J. Med. Sci., **210**: 281, 1945.

2. Carse, T., and Slater, E. Lymphocytosis after electric convulsions. J. Neurol., Neurosurg. & Psychiat., **9**: 1, 1946.

3. Elliott, K. A. C., Rivers, T. C., Elliott, F. H., and Platt, B. The effects of insulin, metrazol and electric shock on blood pyruvate, lactate and glucose. J. Lab. & Clin. Med., **26**: 1928, 1941.

4. Ewald, G., and Haddenbrock, S. Die Electrokrampftherapie. Ihre Grundlagen und ihre Erfolge. Ztchr. f. d. ges. Neurol. u. Psychiat., **174**: 635, 1942.

5. Felici, M. Hematic modifications in electric shock therapy. Riv. sper. di freniat., **64**: 513, 1940.

6. Gellhorn, E., and Kessler, M. The effect of electrically induced convulsions on vago-insulin and sympathetico-adrenal systems. Proc. Soc. Exper. Biol. and Med., **46**: 64, 1941.

7. Kalinowsky, L. B., and Hoch, P. H. Shock Treatment and Other Somatic Procedures in Psychiatry. Grune & Stratton, New York, 1946.

8. Shepley, W. H., and McGregor, J. S. Electrically induced convulsions in treatment of mental disorders. Br. Med. J., **11**: 1269, 1939.

9. Wiggers, C. J. Physiology in Health and Disease, p. 314. Lea & Febiger, Philadelphia, 1944.

NEW POSSIBILITIES IN PRIVATE PSYCHIATRIC PRACTICE[1]

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The private practice of psychiatry is, relatively, a new field in medical service. Previous to about 1840 in this country, as elsewhere, most of the mentally sick got little more than custodial care, usually under unbelievably wretched conditions, in county poor houses or state asylums. This system was developed mainly to protect the community from the annoyances and dangers associated with the insane at large.

The American Psychiatric Association was founded in 1844 by the superintendents of mental hospitals, mostly state institutions. Several privately endowed hospitals, which are still today among the very best, were represented at this organizational meeting—the McLean, by Dr. Luther V. Bell, the Westchester Division of the New York Hospital, by Dr. Pliny Earle, the Pennsylvania Hospital by Dr. Thomas Kirkbride, and also the Pepperell Private Lunatic Asylum.

By the late nineteenth century private sanitaria for the care of the insane, alcoholics, and drug addicts, some of them denominational, had arisen in the vicinity of large cities. When the rest cure of Dr. S. Weir Mitchell was introduced for neurasthenia, this type of home or sanitarium increased greatly in number. The group of physicians, brain specialists, as they were then called, in contradistinction to the nerve specialists, practicing privately in a city as large as New York at the beginning of the present century probably did not exceed a dozen.

Then the advent of Freud and the psychoanalytic approach to a great variety of mental disturbances changed the nature and scope of private psychiatric practice and developed an entirely new type of psychiatrist. The demand for these specialists increased steadily for two reasons: First, many patients formerly sent to sanitaria were now being treated while living in their own homes and continuing with their occupations. This was the result of liberal psychiatric thinking and psychoanalysis which brought within the range of therapy many conditions which were formerly considered to be exclusively within the realm of the law, or the church, or for which patients were quickly committed to institutions. Secondly, the fact that the trained psychiatrist could, on the average, have under treatment not more than 15 patients at any one time made the need for more psychiatrists imperative. The new approach also eliminated large and often hazardous investments in private sanitaria enterprises.

Let us consider some of the illnesses and conditions which are now treated extramurally and privately because Freud by his careful investigation of the factors entering into the lives of many sufferers discovered the value of mental catharsis and recognized the powerful influence of the unconscious factors in all conflicts and normal conduct. Among these illnesses are the neuroses affecting organs—such as asthma, cardiac arrhythmias, urinary disturbances—usually only the presenting symptoms of long-standing anxiety. Even more important are the compulsions and fears which Freud determined to be defensive and protective reactions against unconscious wishes. Through the cathartic and later the analytic method these could be relieved and often permanently cured. The scope and application of psychoanalytic psychiatry soon widened and began to include people with schizoid tendencies and even those with mild paranoid delusional formation. In addition to the treatment of sexual deviations such as overt and latent homosexuality, protracted autoerotism, fetishism, voyeurism, exhibitionism, and so on, there finally developed the treatment of a person suffering from no pathological symptom in particular but a character formation which the person felt was harmful to him—such as asociability, stinginess, too great humility and subservience, or a constant desire to injure and inflict suffering on others against whom the individual had no real cause for grudge.

[1] Read at the 104th annual meeting of The American Psychiatric Association, Washington, D. C., May 17-20, 1948.

Among the recent additions to our field of private practice of psychiatry are the electric shock treatment, insulin shock, and insulin relaxation. The value of these is variously estimated but there seems no doubt that they have great benefit in certain forms of depression, especially those of middle age, and certain schizoid reactions. In the latter type, particularly, most physicians employing shock therapy of whatever kind believe it should be followed by reconstructive psychotherapy.

I may also mention the use of pentothal or sodium amytal, in which the patient abreacts under the influence of the drug. The objection to such abreaction is that the patient usually has no consciousness of what he has said, and repeated abreactions under such drugs do not appear to relieve the unconscious drives and their impact upon conscious strivings. Similar comment may be made about hypnoanalysis in which we again have a hiatus between the unconscious productions and interpretations under the hypnosis and the acceptance and incorporation of them into the patient's consciousness.

We have drifted from the private practitioner and his particular problems. The isolating nature of his work, especially if he be psychoanalytically inclined, tends to limit the range of his vision and philosophy, and to nourish any tendency he may have toward autocracy. Both consciously and unconsciously he becomes prone to choose as his patients those cases with which experience has taught him his technique is likely to be most successful. This further restricts the range of his activities so that he might readily become narrow, opinionated, and intolerant of techniques other than his own. Furthermore, his workmanship is seldom subjected to the direct scrutiny and criticism of his peers, as is common in all the surgical and medical specialties. He may become impatient at the criticisms of his patients and even fail to recognize whether they have foundation or not. It becomes easier to discard them as unwarranted or smugly to classify them under the consolatory heading of resistance. For this reason I have suggested that when a case has been under classical psychoanalysis for 300 hours or has been treated with psychoanalytic psychotherapy for 2 years it be considered good form to review the situation in a seminar with 3 colleagues.

Freud once suggested that the psychoanalyst who has successfully completed a didactic analysis submit himself to reanalysis every 5 years in order that his blind spots may again be brought to his attention. But the self-satisfaction produced by successful practice is usually so great that few men are willing to resubmit themselves to the critical scrutiny of a new psychoanalysis with its cost in time and money.

To counteract these pernicious tendencies, mentioned above, if he lives in one of the larger cities the private psychiatrist may associate himself with a psychiatric clinic connected with a general or a psychiatric hospital. But as time goes on he is likely to abandon this unremunerative work for reasons of comfort, other interests, or the financial returns from office practice.

On the other hand, the institutional psychiatrist, whether he be in a large state hospital or in a smaller private one, will have his experience limited by the type of cases coming under his care, especially in isolated state hospitals in which chronic cases accumulate. This predisposes to stasis in thinking. Also, having to study and treat a large number of patients at one time precludes the kind of attention essential to the deeper insight which promotes mental stability in the patient and leads to successful therapy.

At present only in relatively few instances is the privately practicing psychiatrist welcome for part-time work, even without pay, in mental institutions, whether voluntary, private, or state; or is the resident psychiatrist of such institutions permitted to engage in extramural practice a few hours or days a week. It would seem that greater latitude in each of these directions would result in greater experience and increased efficiency in therapy to both the private practitioner and the physician in the closed hospitals.

Many of the state hospitals are located in relatively small and isolated communities, but physicians connected with them might well be permitted to practice privately one or more days a week in the nearest towns, or, should this prove to be administratively undesirable, the private practitioner located

in a nearby city might well be employed part-time by the state hospital or private sanitarium. At present it is generally believed that there is not sufficient demand for a full-time specialist in psychiatry in a city under 30,000. A part-time arrangement with a state hospital might enable the privately practicing psychiatrist in a small city to serve in a dual role and so earn a satisfactory livelihood. The active participation of a psychiatrist in the clinical and psychiatrically colored social and communal undertakings of smaller towns might be more effective in demonstrating the value of psychiatry than any amount of literature on the subject. Ultimately it is the practitioner who must convince the people of the value to the individual of psychiatric theories when applied to concrete situations which have affected his physical health or mental competence.

Another step for maintaining the efficiency of psychiatrists might be the appointment of some of those practicing privately to all municipal and voluntary general hospitals. This would allow them to continue their contact with patients whose mental deviations have resulted in physiological disturbances sufficiently severe to require hospitalization; also with patients suffering from mental illnesses which sometimes follow childbirth, severe infections, and operations. Such contacts would keep the psychiatrists and the hospital's general staff more alert in the differentiation of the purely physical from the purely psychical and in the recognition of mixed conditions so very numerous today.

This training for all the doctors might be extended by permitting the psychiatrist to admit and treat appropriate cases in the private and semiprivate pavilions of these general and voluntary hospitals. Today very few voluntary hospitals will admit a patient whose symptoms are primarily mental unless the diagnosis is disguised under some such symptom as insomnia, neurasthenia, or headache. It is apparent that the mechanisms of operation would have to be worked out in this proposal and problems of administration would arise, but they have already been met satisfactorily in isolated instances.

One of the valid criticisms of private psychiatric practice is that the expense makes it prohibitive for over 90% of the population. It would, therefore, seem desirable for private psychiatrists to join in a group practice which might take the form of a private clinic in lieu of a connection with a voluntary or city hospital. At the head should be an experienced psychiatrist, who would act as director and consultant, with one or two associate consultants. One of the director's functions would be to assign the patient after the first interview to such a member of the group whose experience and personality would seem best fitted to the patient's needs. In cities where group practice of medicine exists, the psychiatric group might do well to associate itself with one of them.

Such a group undertaking would be possible without too great a sacrifice of income for the physicians participating. Persons in the lower income brackets could be treated at fees far less than those obtained in private practice. The lower cost would be made possible through the circumstance that a younger man whose practice in the early years is always uncertain would be assured of a definite income for a given number of hours of work a week. Also, in the interest of public service the older men of the group would necessarily contribute their time at some sacrifice.

In such groups it would be desirable to have psychiatrists of varied interests and specializations, such as psychoanalysts, psychoanalytically inclined psychotherapists, therapists rarely using psychoanalytical techniques but rather the reeducational, suggestive, and persuasive approaches, or milder forms of ambulatory shock treatment. The group should also contain psychiatrists specializing in certain forms of mental illness, such as alcoholism, or in the care of disturbed children and adolescents, and those serving the parents of average children in an advisory capacity.

The establishment of groups of this kind would enable the practicing psychiatrists to employ psychologists for appropriate tests, offer occupational therapy, organize recreation groups for dancing, games, and hikes, and supply social service aides to supplement where needed the more essentially psychiatric therapy. These auxiliary services of the group clinic might also be opened to the private patients of physicians not connected

with the group. Today such facilities are rarely available to the private patient, yet some or all of them are found in the better organized public psychiatric clinics connected with general or special hospitals. During the time I was associated with such a clinic I often felt disappointed that I was unable to offer such advantages to patients being treated privately because the facilities simply did not exist, although in a few instances a state psychiatric institute allowed me to use its services for occupational therapy. If such a program of accessory services were developed, it would be possible for the private physician to treat a number of patients who now cannot adapt themselves outside of institutions, private or public.

The private groups would also make possible a continuity of treatment in emergency situations where the original therapist, *i. e.*, the patient's own doctor in the clinic, is not available. In many instances the phenomenon of dependency or assurance transference, something very akin to faith in cure or a god, often so sustaining to patients in times of great anxiety or dilemma, could and would be invested in the group as such. I do not think this is theoretical, for the knowledge that the helping presence has not been abruptly removed often enables the patient to tide over alarming or threatening situations, as in Alcoholics Anonymous. A group clinic of this kind might well initiate with selected patients reeducational group activities in the patterns called group therapy with their direct educational and indirect supporting value. This might be desirable especially with certain types of adolescents and adults who are solaced by concepts of identification with persons suffering like themselves.

Another urgently needed facility in the private care of the mentally ill is what I have elsewhere called a half-way house. This would be a residential home, operated on a simple and inexpensive scale, under the supervision of a nurse and psychiatric social worker who would provide supplementary therapeutic activities. Here patients who are unable to face too disturbing home situations might temporarily reside while being treated intensively by a private physician.

General practitioners (family doctors) often estimate that, in at least 75% of patients seeking their aid, careful examinations disclose no physical basis for the complaints, among which indigestion, cardiac sensations, headaches, or fatigue occur most frequently. The family doctor of the nineteenth century who so often knew the emotional setting of his patient is becoming almost extinct through the scientific demands of present-day medicine as well as through the residential and living changes of the times. A new and widening function for the psychiatrist is that of general medical adviser to the family. Even today a few older psychiatrists have supervised the mental and emotional growth of 2 or 3 generations in the same family and know far more about the conscious and unconscious emotional interplay within the family than any single member of it. The advice of such family psychiatrists is sought in important decisions involving sociomedical and even physical situations; and in those cases where I have had the privilege of acting as family psychiatrist for 25 years or more, my advice has been sought and often influenced parents not only in their attitudes and training of the children but in the choice of physicians, schools, camps, and vocations.

At the present time in instances where the psychiatrist eventually attains the rôle of family medical counsellor, the initial contact often occurs through treating one member of the family for some specific psychiatric difficulty. It is soon discovered that other members of the family are also psychologically involved and if the psychiatrist succeeds in helping the original patient, sometimes the other or others may voluntarily seek his aid. For example, in one case where I had the fortune to become such a family psychiatrist, the original patient, the wife, was referred to me by an internist, who knew of the family discord, and who correctly thought that her obstinate constipation was due to sphincteric tension.[2] Success with the wife led the husband on his own initiative to seek psychoanalysis and, in the course of a sequential analysis of the husband and wife, they both frequently sought advice concerning the problem of their son

[2] Oberndorf, C. P. Psychoanalysis of married couples. Psychoanalytic Review, Vol. XXV, October 1938.

who already was in a school for maladjusted children, largely because of the strife in the home. Eventually this boy failed in college during his sophomore year and was sent home. The parents wished me to treat him psychoanalytically but, thinking that the young man's resentment to his parents might well be displaced upon me, I referred him to successive psychiatrists from whom he speedily parted company. Finally at the insistence of the parents, I undertook treatment of the son and found to my surprise that my knowledge of the parents' shortcomings and inconsistencies did not operate as a detriment but rather as a decided advantage in helping their son to an adjustment. Subsequently, by remote influence my knowledge as family psychiatrist proved of help in the early marital difficulties of a younger daughter, whom I had never seen, living in a small Southern town.

In many physical illnesses the family psychiatrist's medical knowledge plus his acquaintance with the emotional needs of the particular person place him in a position to give an opinion and to determine the extent to which psychic factors complicate a given illness and to evaluate the proposals of other medical specialists for treatment, particularly in surgical cases, where the emotional hazards inherent in any operation and the need for attention in the form of punishment or reassurance (absolution) is often so strongly involved.

Perhaps it is presumptuous to present a paper on the future of private psychiatric practice in these days when ideas of socialized or state medicine are advocated by many in this country and have been partially carried out in England. It is possible that these trends in the care of the sick may eliminate the private practitioner altogether. This eventuality seems distant in the United States and would probably affect the private psychiatrist last. If the present economic order does not change far beyond current expectations, the private practice of psychiatry is likely to expand enormously, provided it can supply better services, some of which I mentioned, to far larger numbers of people than is possible today because of its prohibitive cost.

THE INSANITY PLEA IN CRIME

An Evaluation of the 1927 Law [1]

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Although great strides have been made during the twentieth century in many aspects of psychiatry, it is questionable whether this is true of forensic psychiatry. Advances have been made, to be sure, through the passage of the Briggs Law in Massachusetts and the use of psychiatrists in juvenile, municipal, and criminal courts in many places. A step in this same direction was taken by Colorado in the passage of the so-called 1927 law which permits a plea of insanity to be made by any defendant accused of a crime; following the entrance of this plea the defendant is placed in either the Colorado Psychopathic Hospital or the Colorado State Hospital for a period not to exceed 30 days for examination. A report setting forth the hospital's opinion is made to the court having jurisdiction; this report is not binding on either the defense or the prosecution, and the court may appoint other psychiatrists to conduct separate and independent examinations. In addition, the defendant is free to employ any psychiatrist of his choice.

In an earlier paper(1) we discussed the plea of insanity as a defense to murder. We noted that in a number of cases the report submitted by the examining psychiatric hospital was not accepted by the defense, and conflicting psychiatric testimony was introduced to show that the defendant was psychotic and irresponsible at the time of the commission of the crime. We pointed out that the plea of insanity, especially temporary insanity, is used when no other successful defense seems possible and that its use leads to an abuse of psychiatry and a prostitution of psychiatrists.

In this paper we continue the study begun in our earlier report. The criminal cases committed to the Colorado Psychopathic Hospital under the jurisdiction of the 1927 law between August 1, 1927, and August 1, 1947, are reviewed with reference to hospital findings, court disposition, and present status. Special interest is focused on the 129 cases in which the crime was murder. The author personally examined 75% of all cases and was in close touch with the examination of an additional 15%. The follow-up studies were done within the last year through the cooperation of the Colorado Psychopathic Hospital, Colorado State Hospital, and the Colorado State Penitentiary, which made their records available to us. In addition, we personally interviewed all murder cases still confined to the Colorado State Penitentiary.

The yearly admissions to the Colorado Psychopathic Hospital of offenders under the 1927 law and their distribution with regard to sanity and insanity as reported by the hospital are shown in Table 1. There has been a gradual increase in the number of these cases; this reached a peak between 1937 and 1939, declined slightly, and now seems to be increasing again. This rising incidence may reflect in part the increase in the total number of crimes committed in an expanding population but it may also be due to a more frequent recourse to the insanity plea. Of the 750 offenders, 190, or 25%, were reported insane by the hospital; of the 129 charged with murder, 39, or 30%, were reported insane.

In the first 10-year period of the law, 37% of the cases examined were found insane, as against 18% during the second 10-year period. We believe that during the period from 1927 to 1937 the examining hospital tended to be lenient in its interpretation of insanity on the basis of the defendant's ability to distinguish right from wrong. During the second 10-year period, the question as to whether the offender knew the difference between right and wrong was viewed much more strictly. Borderline cases which *might* have been considered insane in the first period were considered sane in the second period.

In addition to a more strict interpretation

[1] Read at the 104th annual meeting of The American Psychiatric Association, Washington, D. C., May 17-20, 1948.

of the meaning of the term sanity, we feel that a temporary change in personnel accounted for the decrease in the number of cases found insane. This change in personnel showed itself during the war years, especially from 1943 to 1945, when only 13% of the cases studied under the law were considered insane.

The jury findings, court disposition, and present status of the *560 cases reported sane* by the hospital are shown in Table 2. From these data it is evident that about ¾ of this group (422) were sentenced to a penal institution of some kind. The remaining ¼ was divided between (a) those released by the court (93), (b) those found insane by the jury and committed to the Colorado State Hospital (10), and (c) those about whom the court action and disposition are unknown (35). Among all those sentenced by the court (422), the great majority was sentenced to the Colorado State Penitentiary, and about ⅛ (88) of these still remains institutionalized. However, there is considerable discrepancy between nonmurderers and murders in this respect. While only 15% (51) of the nonmurderers remain institutionalized, 41% (37) of the murderers are still confined. Moreover, only murder cases received the death penalty; hence all of the executions were in this group.

The data in Table 2 also show that the report of the hospital was accepted in the great majority of the cases, and that rarely (2 cases in 470) was a case contested unless the defendant was accused of murder. However, when the defendant's life was at stake, the case was much more likely to be contested on the basis of insanity (19 cases in 90). These contested cases will be discussed later in this paper.

The jury's findings, court disposition, and present status of the *190 cases reported insane* by Colorado Psychopathic Hospital are shown in Table 3, which indicates that the great majority (180 out of 190) was found insane and committed to the Colorado State Hospital. Among all those so committed, about ¼ (47) still remains in the hospital, though this figure might be somewhat higher had we data on persons transferred to nonpenal institutions in other states. Again there is considerable discrepancy between nonmurderers and murderers since only 20% of the nonmurderers remain in the state hospital, whereas 55% of the murderers remain.

Table 3 also shows that, while the report of the examining hospital was accepted in the great majority of cases, it was rejected or ignored in 10, of which 2 were murder cases. However, even though the jury found some cases sane which the hospital reported insane, there was not a contest in the same sense as occurred when the offender was reported sane and the case contested. Rarely, if ever, was conflicting psychiatric testimony offered to prove the defendant sane.

Two additional items are of interest with regard to the cases committed to the state

TABLE 1

CASES ADMITTED TO THE COLORADO PSYCHOPATHIC HOSPITAL UNDER THE 1927 LAW DURING THE SUCCEEDING 20 YEARS

	Sane			Insane			
	No.	%		No.	%		Total
8-1-27 to 8-1-29	33	60		22	40		55
8-1-29 to 8-1-31	41	75		14	25		55
8-1-31 to 8-1-33	28	54	63	24	46	37	52
8-1-33 to 8-1-35	31	63		18	37		49
8-1-35 to 8-1-37	53	65		29	35		82
8-1-37 to 8-1-39	89	80		22	20		111
8-1-39 to 8-1-41	66	83		13	17		79
8-1-41 to 8-1-43	66	81	82	15	19	18	81
8-1-43 to 8-1-45	59	87		9	13		68
8-1-45 to 8-1-47	94	80		24	20		118
Totals	560	75		190	25		750

TABLE 2

JURY FINDINGS, COURT DISPOSITION, AND PRESENT STATUS OF 560 CASES REPORTED SANE BY COLORADO PSYCHOPATHIC HOSPITAL

	Nonmurder cases	Murder cases	Total
A. *Found sane by the jury*			
1. Released by the court			
a. Released without trial	22	0	22
b. Released without sentence or acquitted	18	0	20
c. Released on probation	51	0	51
2. Sentenced by the court			
a. Nonpenal correctional institution	0	2	2
b. County jail	21	4	25
c. Reformatory	43	2	45
d. Penitentiary			
(1) Pardoned	0	1	1
(2) Paroled	218	21 (3) *	239
(3) Discharged	4	0	4
(4) Now in penitentiary	49	36 (9)	85
(5) Transferred to state hospital	2	1	3
(6) Deceased			
(a) Natural	5	2	7
(b) Executed	0	11 (1)	11
B. *Found insane by the jury and committed to Colorado State Hospital*			
1. Released without hospitalization—insanity temporary	0	3 (3)	3
2. Released after hospitalization	2 (2)	1 (1)	3
3. Now in the hospital	0	4 (2)	4
C. *Miscellaneous*			
1. Escaped from Colorado Psychopathic Hospital	3	0	3
2. Court action and disposition unknown	32	0	32
Totals	470 (2)	90 (19)	560

* Figures in parentheses represent contested cases.

TABLE 3

JURY FINDINGS, COURT DISPOSITION, AND PRESENT STATUS OF 190 CASES REPORTED INSANE BY COLORADO PSYCHOPATHIC HOSPITAL

	Nonmurder cases	Murder cases	Total
A. *Found sane by the jury*			
1. Charges dismissed	2	0	2
2. Placed in family custody	4	0	4
3. Sentenced by the court			
a. Colorado State Reformatory	1	0	1
b. Colorado State Penitentiary			
(1) Executed	0	1	1
(2) Now in the penitentiary	0	1	1
(3) Transferred to state hospital	1	0	1
B. *Found insane by the jury and committed to the Colorado State Hospital*			
1. Discharged	44	2	46
2. Escaped and not returned	35	4	39
3. Transferred			
a. To penal institution	5	2	7
b. To nonpenal institutions in other states	11	1	12
4. Now in the hospital	27	20	47
5. Deceased			
a. Natural causes	13	8	21
b. Suicide	1	0	1
C. *Court action and disposition unknown*	7	0	7
	151	39	190

hospital: The first is the higher incidence of death from natural causes in this group than that sent to the state penitentiary. The second item is the relatively large number of escapees from the state hospital. The ease with which one can escape from the hospital sometimes makes it necessary to transfer the so-called criminally insane to the state penitentiary for safekeeping. However, it appears that, regardless of the institution to which one is sent, the chances of being released in one way or another are relatively good. Only 20% of those sentenced to the penal institutions remain there, and about 25% of those committed to the state hospital are still institutionalized.

Since the plea of not guilty by reason of insanity seems to be an increasingly popular one for alleged murderers, we are particularly interested in the 129 murder cases in which this plea was offered. An examination of the data in Tables 2 and 3 reveals the following: (1) Approximately $\frac{1}{3}$ of the alleged murderers who offered the plea of not guilty by reason of insanity was reported insane by the examining hospital. Moreover, these findings were generally accepted by both counsels and the offenders committed to the Colorado State Hospital. (2) Approximately $\frac{2}{3}$ (90) of the alleged murderers who offered the plea of not guilty by reason of insanity were reported sane by the examining hospital. In most cases this finding was accepted by both counsels, and the offender was tried for his crime and sentenced accordingly. (3) In 19 cases reported sane by the hospital this report was not accepted by the defense counsel and the plea of insanity was maintained. While this procedure was not usually successful in keeping the offender out of prison, since the jury held that 13 were sane, we feel that in a number of cases it definitely exerted a modifying influence so that the defendant received a less severe sentence than might have been expected.

Further data on these 19 cases are presented in Table 4. It is interesting to compare the hospital's report, the diagnosis claimed by the defense, and the follow-up study. Although the hospital reported these persons sane, even though organically defective in 2 instances, the defense claimed a variety of mental conditions which supposedly rendered the defendant insane. Moreover, the plea of temporary insanity was made in addition to, and without regard to, the clinical diagnosis claimed by the defense, but seemed to be used as a technique for making the insanity plea credible to the jury when the defendant would obviously appear sane at the time of the trial. In each of the contested cases, conflicting psychiatric testimony was offered. The psychiatrist for the prosecution stated that the defendant knew right from wrong and could refrain from doing the wrong; whereas the psychiatrist for the defense affirmed just the opposite with equal zeal and honesty. In each case, the same life history and the same behavior patterns were available to both sides; one side emphasized aspects which the other chose to ignore or interpreted in an entirely different way.

Unfortunately, in our follow-up study, the 7 persons in the contested group who had been paroled or released were not available for interview. It is probably safe to assume, though we have no proof, that the 3 who were paroled showed no signs of insanity, and since the 3 who were released without hospitalization were held to be only temporarily insane at the time of the crime, they may also be assumed sane. One person was released as sane after a short period of hospitalization, and follow-up reports to the Colorado State Hospital record that each of the persons released, either with or without hospitalization, is now making a satisfactory adjustment. The 2 who are still in the hospital have been held sane by the hospital physicians and recommended for release. Of the 9 who are still in the penitentiary, we found 8 nonpsychotic and 1 psychotic. It is quite possible that the defense was correct in claiming schizophrenia and hence "insanity" for this case, since he is now definitely a schizophrenic with paranoid trends.

In our interviews with the nonpsychotic cases, all seemed to talk freely and with little reserve; yet most of them seemed to have developed a partial amnesia for the details of their crime. This may be a rationalization for the fact of their imprisonment. All of them sincerely felt they must have been insane at the time of the commis-

TABLE 4

DIAGNOSIS, COURT DISPOSITION, AND PRESENT STATUS OF CONTESTED CASES

Case	Hospital report at time of trial	Follow-up examination	Defense "diagnosis"	Disposition and present status	Type of murder
1.	Defective but sane. IQ 50	Not available	Defective and insane	Second degree murder; paroled	Killed sister-in-law
2.	Sane. IQ 96	Sane	Defective and insane	First degree murder; life sentence. Now in penitentiary	Killed wife and two children
3.	Sane.	Not available	Schizophrenia	Second degree murder, 10 to 20 years; paroled	Killed best friend
4.	Sane; malingerer	Schizophrenia	Schizophrenia	First degree murder; life sentence. Now in penitentiary	Killed wife
5.	Sane	.....	Schizophrenia	First degree murder; death sentence. Executed.	Poisoned wife and child
6.	Sane	Not available	Epileptic with furor state	Second degree murder. Paroled	Killed neighbor
7.	Arteriosclerosis, but sane	Arteriosclerosis and sane	Cerebral arteriosclerosis with psychosis	Second degree murder. Now in penitentiary	Killed wife
8.	Sane	Sane	Alcoholism	First degree murder; life sentence. Now in penitentiary	Killed undersheriff
9.	Sane	Sane	Alcoholism and schizophrenia	First degree murder; now in penitentiary	Killed wife
10.	Sane	Sane	Alcoholism	First degree murder; life sentence. Now in penitentiary	Killed prostitute
11.	Sane	Sane	Alcoholism and schizophrenia	First degree murder; life sentence. Now in penitentiary	Killed patron in tavern
12.	Sane	Sane	Alcoholism	First degree murder; life sentence. Now in penitentiary	Killed wife
13.	Sane	Sane	Schizophrenia	Second degree murder. Now in penitentiary	Infanticide
14.	Sane	Not available	Schizophrenia	Temporarily insane. Released	Killed husband
15.	Sane	Not available	Confusional state	Temporarily insane. Released	Killed hired man and wife
16.	Sane	Not available	Confusional state	Temporarily insane. Released	Infanticide
17.	Sane	Ready for release	Psychopath with psychosis	Temporarily insane. Now in state hospital	Killed mother-in-law and soldier
18.	Sane	Ready for release	Schizophrenia	Insane. Now in state hospital	Killed attorney
19.	Mental defective	Not available	Mental defective with psychosis	Temporarily insane; committed to state hospital. Released	Infanticide

sion of the crime; yet strangely enough each felt that the plea of insanity as a defense to crime was abused. In 4 cases this plea had been used without the defendant's wishes; in one, the attorney told the defendant that the plea would be used to give more time to prepare the case; in still another, the defendant was instructed to claim amnesia for the details of his crime. In summarizing these 19 contested cases, 7 are presumably sane (having been released or paroled), 10 are sane according to recent re-examination (8 in the penitentiary and 2 in the state hospital), 1 is insane (psychotic), and 1 has been executed.

Any evaluation of the 1927 law must include a study of its functioning and, on the basis of this, an analysis of its strengths and weaknesses. To show its functioning, we have presented material which came under the jurisdiction of this law during a 20-year period, and we have observed that, in the overwhelming majority of cases, the hospital's report was accepted by the court and the offender treated accordingly. Thus, the hospital has acted as a valuable clearing house for many vexing problems which might have proved difficult and costly of solution. This is the greatest strength of the 1927 law as it has functioned. In theory at least, the hospital's report represents an unbiased opinion, since it is the consensus of the hospital staff, and since none of the staff can profit financially through testimony as to the defendant's mental condition.

Certain weaknesses have appeared which interfere with the functioning of the 1927 law: (1) The hospital has been hampered because no provision has been made for the immediate examination at the time of the crime of all offenders who might fall under the jurisdiction of the law. Thus the defense can claim, with little fear of successful rebuttal, that the criminal was insane at the time of commission of the crime, since no one examined him at that time. Moreover, the admission as evidence of the result of any examination at the time of the crime is bitterly contested by the defense.

(2) The hospital is further hampered in its evaluation of the case because it is barred from using information gained from relatives, friends, and other outside sources about the defendant on the basis of a court ruling that such information is hearsay evidence. The hospital must rest its entire decision on its examination of the defendant while committed there.

(3) It was believed at first that the hospital in a real sense would be a representative of the court, since it would represent neither side but would present an unbiased opinion. This has not proved to be the case; in actual practice the hospital is a powerful ally of either the defense or the prosecution, according to the findings. While theoretically these findings form an unbiased opinion, bias tends to develop if the opinion is challenged, and the hospital physicians who are called as expert witnesses mobilize all their evidence to support their opinion in exactly the same way as do the private practitioners engaged by the defense or prosecution.

(4) Ample evidence is available to show that the hospital's opinion is not final. While this in itself perhaps should not be considered a weakness in the functioning of the law, in practice it leads to confusion and distrust. The hospital's opinion may be, and has been, successfully contested by either the prosecution or the defense. It has been reversed by the jury and by the Colorado State Hospital, which failed to find insane the cases which had been committed there on the basis of the findings at the Colorado Psychopathic Hospital. The fact that so many of these cases were released from the Colorado State Hospital was instrumental in the passage in 1937 of a law which provides that no case committed to the Colorado State Hospital under the 1927 law can be released without the consent of the trial court and the district attorney concerned. This provides an important check on the opinion of both hospitals, but especially upon the hospital making the first examination. Undoubtedly the 1937 law has been a prime factor in reducing the percentage of persons reported insane from 1937 to 1947.

Not only has the examining hospital's opinion been reversed by the various agencies mentioned above, but the hospital has actually reversed itself in no less than 15 cases. In 2 the hospital first reported the offenders sane, and at a later date insane, when the

culprits again fell afoul of the law. In 13 other cases, this situation was reversed. Since there is this difference of opinion within a single hospital and between hospitals, it is not surprising to find conflicting views between outside psychiatrists who are engaged to testify on one side or the other.

Moreover, when conflict arises over the issue of sanity, the jury may find itself in a quandary, especially when conflicting psychiatric testimony is given. Since the criterion of sanity is only whether the defendant knows the difference between right and wrong or is able to refrain from doing the wrong, and since equally eminent psychiatrists take opposing views of the same case, the jury tends to discount all of this evidence and render a verdict in keeping with the individual juror's emotional identification with the defendant. Often this verdict may be not guilty by reason of insanity, not because the jury really believes the defendant insane, but because the jury is unwilling to find the defendant guilty, and is constrained from acquitting him if he has admitted the crime; hence it seeks a compromise.

(5) The hospital is hampered also by the fact that it must determine whether the defendant is sane on the basis of whether he knows the difference between right and wrong and not on the basis of our present much broader psychiatric concepts. Motives for behavior, unconscious drives, aggression, love, hate, need for punishment, emotional attitudes, and the like should be included in determining a person's "sanity," but these considerations have little place under the present criminal code. This code still uses as the sole criterion of a defendant's sanity the obsolete M'Naghten rules. These rules are concerned only with establishing whether a person accused of a crime knows the difference between right and wrong, or, knowing the difference, can refrain from doing the wrong. This fact is in truth the greatest weakness of the 1927 law—its far-reaching modern recognition of the role of emotional and mental problems in crime is aborted by the restrictive criminal code.

We can no longer think in terms of a standard of absolute responsibility and cling to it. Men cannot be held either absolutely guilty or absolutely innocent; however under present-day legal procedures we have no other choice. We know that a sharp demarkation is not possible scientifically between sanity and insanity. The civil law makes no attempt to require the mentally sick to know the difference between right and wrong, but rather inquires into the person's mental health and provides the necessary treatment. Unfortunately, criminal law insists upon attempting what both medicine and the civil law increasingly recognize as incompatible with the facts. Because the criminal code adheres to the idea of absolute responsibility and is adamant to the idea of modified responsibility, present-day law is oriented toward punishment and retribution rather than rehabilitation. Furthermore, there is little possibility of basically improving the 1927 law within the framework of the present criminal code.

In summary, we have presented an evaluation of a law designed to take cognizance of the fact that mental illness is an important factor in crime. We have shown how this law works by presenting an analysis of the material which came under its jurisdiction for 20 years, and have pointed out the strengths and weaknesses in the functioning of this law. We believe that the greatest obstacle to the satisfactory functioning of the law is the restrictive criminal code which limits the definition of sanity to the narrow question of knowing the difference between right and wrong.

BIBLIOGRAPHY

1. Rymer, Charles A. The insanity plea in murder. Am. J. Psychiat., **98**: 690-697, 1942.

SOME ASPECTS OF CONCENTRATION CAMP PSYCHOLOGY [1]

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The last 10 years have offered us a startling demonstration not only of mankind's capacity for sadism, but its capacity for endurance as well. From recent battlefield experience we have obtained a prolific and revealing literature on those reactive states caused by the overwhelming fears and stresses of modern warfare.

But the warfare of tanks, rocket bombs, and flak was not the only one to produce psychological casualties. There was another battlefield, even a more harrowing one. I refer to the German concentration camps, which for calculated sadism and destructiveness will go down in history as one of the most savage outbursts of man's inhumanity to man.

Exposed to the continuous and unrelenting fear of death, the concentration camp victims who finally managed to escape the journey to the death chambers and the crematoriums have astonished us by the degree of health and balance they succeeded in conserving. Indeed, to live after such an experience, to try to reassert one's rationality and take up again the work and duties of everyday life—this seemed at first impossibly difficult.

Much has been written, mostly by the survivors themselves, describing the terror and sadism to which they were subjected. Despite this growing literature, we still know comparatively little about the deeper psychodynamics of that handful of people who emerged from the camps after liberation. I say "handful" advisedly, for I am thinking particularly of the Jewish survivors. Of approximately 6 million Jews who entered the camps, only about 100,000 managed to survive, and among these were only about 4,000 children.[2]

As a contribution to the psychological investigation that still confronts us, I shall present a few clinical observations from my recent study in Cyprus [3]—observations strikingly reminiscent, if one excepts the threat and actuality of death, of those very concentration camps which the Allied victory was supposed to have destroyed once and for all.

The purpose of my mission to Cyprus—on which I was accompanied by a psychologist and a psychiatric social worker from the United States [4]—was to make a survey of the mental health of the displaced persons there and, secondly, to lay the foundations for a mental hygiene program for displaced persons in both the DP camps and in Palestine.

My first concern was to study some aspects of those problems which I had already surveyed during my first stay among the displaced persons of Europe. What had happened, I asked myself, to the repressed anxieties, the hostilities, and aggressions held in check and stifled for so many years without release of any kind? And, above all, what had happened to these concentration camp survivors after having suffered the most recent frustration—that of being jailed in Cyprus just when they were in sight of their long-desired sanctuary, Palestine?

As you may know, Cyprus was opened in August 1946 as a detention center for those refugees from Europe who had sought "illegal" entry into Palestine. In contrast to the DP camps in Europe, where freedom of movement was possible, the camps on Cyprus had many features that harked back to the German concentration camps. Situated on a strip of barren, sun-scorched earth, where the scarcity of water was always a

[1] Read at the 104th annual meeting of The American Psychiatric Association, Washington, D. C., May 17-20, 1948.

[2] It was estimated that out of approximately 1,700,000 children under 18 from among the European Jews before 1939 only about 10% were alive after the war.

[3] A fuller presentation of my findings in both Europe and Cyprus will be forthcoming at a later date. There I shall also deal with the readjustment of these people as it has been demonstrated in their transplantation to a free environment.

[4] This team was matched by a similar team from Palestine. The survey, undertaken in 1947, as well as a previous survey of European DP camps in 1946, was sponsored by the American Joint Distribution Committee.

source of anxiety, the "illegal" immigrants were confined behind barbed wire in circumstances of overcrowding and restriction of the worst sort. The purgatory of Cyprus was a real *psychological laboratory,* in which one could study a wide range of ego defenses, ranging from rational attempts to ward off and deny new threats to real states of panic and psychotic manifestations.

We examined a total of 172 persons—84 children up to the age of 18, and 88 adults. They were mostly referred to us by the doctors, nurses, supervisors of children's groups, and others. Besides a relatively small incidence of frank psychoses there were numerous cases of reactive depressions, conversions, hypochondriacal conditions, and other symptomatologies. Most of the complaints were predominantly psychosomatic—in the adults cardiac symptoms, gastrointestinal, and muscular pains. As for the children, the camp's doctor estimated that roughly 50 to 60% of those who sought medical help in the dispensaries presented somatic complaints for which no organic causes could be found: headaches, dizziness, abdominal pains, and pains in the throat, much like a globus hystericus. All these symptoms were usually accompanied by mild or acute anxiety states. Some of the latter developed into real "panic" situations, characterized by complete confusion, disorientation, and hallucinations, which would subside after a few days.

Many of the children had this in common: they all displayed fatigue beyond anything which could be satisfactorily explained by their physical condition. But a more striking characteristic was their emotional behavior. Indeed, one could not but be astonished by the shallowness of their emotions, and this was true of all those who had been exposed to continuous danger, whether or not they had been in concentration camps. This shallowness came particularly to the fore when they recounted horrible experiences with a lack of expression and marked detachment as if they were speaking of something very unimportant to them or of an experience that had been undergone, not by themselves but by some stranger. This behavior pattern, whether it be called numbness or "affective anesthesia," as the French psychiatrist, E. Minkowski, puts it, was undoubtedly the result of a powerful repression of fears and anxieties, a repression which had made it possible for them to withstand the repeated traumata of their daily lives.

Such numbness was not always the end result of a long process of emotional erosion. Often the desensitization could be traced back to one paralyzing fright, a real traumatic experience. I know of no better illustration of this than the story told me by a girl of 9. When she was about 5 years old, the persecution of the Jews started in her home town in the Ukraine. Her parents, hoping to save her even if they themselves were captured, left her with neighboring peasants, trusting that her blonde hair and blue eyes would save her from the Nazis. Several days later, when the child was in the meadow with the cattle, she heard shots being fired, and a few hours later a boy came along with a card in his hand. She recognized her father's identity card. She asked where he had found it, and the boy answered that it came from one of the men the Nazis had just killed. The child said that she wanted to cry but was afraid that he would recognize her as Jewish and deliver her to the Nazis. So she didn't cry. She didn't even cry when the boy took her by the hand and led her to a nearby wood, where, lying in a ditch, she saw her parents, her two brothers and many other Jews—all of them dead. Even then she did not cry, and when I saw her, 4½ years later, she was still incapable of crying.

Of course, the repression of affects is not new to psychopathology; we observe it in our everyday practice. But to find it in hundreds of children who seemed in a state of utter apathy was nevertheless unusual.

Now, this numbness was still more striking in Cyprus where, in addition to the apathy, a new phenomenon was observed. Some of the adolescents with somatic complaints showed a marked tendency toward sleepiness, ranging from slight narcoleptic states to periods of prolonged sleep lasting for days, as in the cases of 4 children specially observed. One boy, for example, slept for 72 hours. When I saw him he was in the second day of a deep, lethargic sleep, and it was impossible to arouse him or get any response from him whatsoever. The physical examination showed nothing pathological to justify his condition.

Another patient, an 18-year-old girl from Poland, with a history of violent headaches and attacks of dizziness, suffered from periodic spells of prolonged sleep. A year and a half before she had come to Cyprus, while in a German DP camp, she had had an accident which precipitated her illness. While she was milking a cow, an ox jumped on her, greatly frightening her. She lost consciousness but was able to return to her work the following day. Soon after, she began to manifest great fear, complained of violent headaches, and finally lapsed into a state of pronounced anxiety which was followed by a deep sleep lasting several hours. She was said to have improved after treatment. Yet shortly after her arrival on Cyprus the headaches and dizzy spells became more frequent and more intense, and the patient complained of great fatigue. Once when her headache "reached a peak," she fell asleep for 48 hours and nothing could arouse her. The patient seemed well developed and well nourished, and there were no unusual findings on physical examination.

From her case history, we learned that her mother and two younger sisters were murdered while hiding in the woods from the Nazis during the war; the patient, her father, and another sister, who was also on Cyprus, escaped. Since there appeared to be a great attachment to and identification with her father, a cattle merchant, we investigated this case further under sodium amytal. When it was suggested to the patient that she was again experiencing the incident with the ox, her body went into contortions suggestive of sexual intercourse, while she repeated continuously, "mother," "father," in the voice of a small child.

This is one of the few cases in which we were able to secure enough evidence to warrant the assumption that the disposition toward development of neurotic symptoms reached far back into childhood, and had been activated by the recent hardships of camp life after liberation. (In this case, the incident with the ox seemed to have been the precipitating factor.) Her sister showed no neurotic symptoms in spite of having experienced the same hardships.

Now, prolonged sleep may be due to a variety of causes, such as tumors of the brain, diseases of the pituitary and thyroid glands, encephalitis, exhaustion following fever, and others. But as far as it could be ascertained, none of these usual causes could be detected in our patient.[5] Moreover, this lethargic sleep observed by us differed from similar cases described in the literature by the fact that nothing could arouse the sleeping patient. There can be no doubt that this condition was of a psychogenic origin and probably represented another protective measure of the ego against an overwhelming situation: in other words, a complete withdrawal from painful reality.

The fact that these phenomena appeared for the first time or became accentuated on Cyprus suggests that the hardships of life there—especially the barbed wire and the restriction of movement, so reminiscent of the German concentration camps—reactivated, by association or by restimulation of conditioned responses, fears and anxieties previously experienced in the Nazi camps. In contradistinction, however, to the German concentration camps, where manifest anxiety states or anxiety equivalents had to be suppressed or repressed, the less perilous reality of Cyprus allowed the psychic apparatus to relax its vigilance enough to permit the eruption of the symptoms. We now know enough about the Nazi camp doctors to understand why it was necessary for the internees to suppress their symptoms; they knew that the path led from illness to the crematorium. The desire for self-preservation under the constant threat of death was apparently strong enough to repress any symptoms.

Of course many other factors can be advanced to explain the increase of neurotic symptoms, especially psychosomatic manifestations, in the survivors of the concentration camps. The sense of guilt at having remained alive when so many others had died—so universal among the survivors—seems to have played a not unimportant rôle in the genesis of the symptoms. On the basis of my observations in Europe, I believe one can divide the emotional history of most

[5] It was unfortunate that equipment was lacking for a thorough examination. It was recommended that these cases, as well as those with convulsive symptoms, be given fuller examination, including EEG study, on arrival in Palestine.

of the survivors into 2 distinct periods: the short-lived but intense period of elation right after liberation, and then the period of depression which inevitably followed, and was so heightened on Cyprus. Many often spoke openly of their guilt; in others, however, even this guilt was repressed or concealed. This was particularly noticeable in cases of conversion hysteria.

Another aspect of the reactions to camp life is worthy of our attention: the sexual behavior of children and adults on Cyprus. But, for the sake of comparison, let us first recall what we have learned from the numerous reports of former inmates of the German concentration camps. We now know that the majority of the inmates of the Nazi camps showed sexual dysfunctions,[6] many even from the moment of the "initial shock" of imprisonment. Indeed, until liberation, when the death threat was finally removed, most of the men had been completely impotent. And it has also been reported that even nocturnal emissions occurred only on those days when the prisoner was transferred to the relative safety of the camp hospital. The majority of the women became amenorrhoic, and only after they were liberated did they begin to menstruate again, frequently showing oligomenorrhea and dysmenorrhea. Reports from the ghetto in Warsaw estimated that about 70 to 80% of the women became amenorrhoic.

The children who came to the concentration camps during the latency period showed signs of delayed psychosexual development. In many cases the girls did not start to menstruate until a year after liberation, sometimes at the age of 17, or even 18; and in a few cases even married women of 18 and 19 had not yet menstruated.

This abstention from sex, which was one of the most striking effects of life in the concentration camps, is characteristic of the primitive and narcissistic stage to which the inmates had regressed. (In fact, many of the survivors even after liberation showed strong evidence of complete infantile dependency.) One might speculate on the possibility that the continuous death threats reawakened old castration fears, prohibiting the indulgence in sex, as if the inmates felt that by refraining from sexual activity they would avoid punishment here too, the punishment of the gas chamber and the crematorium.

In all the survivors of the Nazi camps, one might say, the self-preservation instinct became so dominant that it blotted out all the other instincts. Indeed, it would seem that the whole libido had to be withdrawn from the outer world and focused on the struggle for survival.[7] One might also speculate on whether this narcissistic withdrawal created a vulnerable area in the psyche which, later on, would account for the appearance of those psychosomatic ailments so general among the survivors of the concentration camps.

This asexual behavior was also observed to a certain extent on Cyprus in many former inmates of Nazi camps. But here again it was an instance of reactivation of conditioned responses and old castration fears, rather than a response to the reality situation. Some of the male internees we examined on Cyprus claimed that they became impotent after their arrival there. A 22-year-old man, a former inmate of Auschwitz, who complained of gastrointestinal disturbances and muscular pains in the legs, and who became impotent on Cyprus, was sure that all those who continued sexual activity in the concentration camps became so weakened that they died. Those who refrained, he stated, were more capable of survival. Cyprus, he felt, was a re-enactment of his old experience: here, too, one was compelled to stop masturbating and conserve one's strength.

The majority of adolescents advanced the same theory for their sexual inactivity. Those who had begun to masturbate after liberation gave it up as soon as they arrived

[6] D. Rousset, in his book, "Les Jours de Notre Mort," describes how hunger and continuous preoccupation with thoughts of food seemed to have completely replaced the sexual desires and fantasies of the inmates of Auschwitz, especially among those who felt most abandoned, namely the Jews, who formed the "plebs" of the camp.

[7] Let us not, however, fall into the popular fallacy that it was by some special biological fitness that these people survived. Nor did they survive by virtue of their ego strength. Chance played the only important rôle in saving their bodies; and it may truly be said that in a sense their psychic survival is still to be accomplished, and that it is this process we are now considering.

on Cyprus. Supervisors of the children reported that all the adolescents seemed curiously uninterested in sex. This report should be contrasted with the report of the group leaders who assembled these adolescents right after liberation; at that time the older children showed more actual interest in sexual matters than at any time during their stay on Cyprus.[8]

The Rorschach tests we took on Cyprus showed in all cases a deep sexual repression with underlying anxiety.

These observations on Cyprus suggest again that in a desperate struggle for survival all the forces of the libido are concentrated on the instinct of self-preservation. And so we may wonder whether Ferenczi's assumption that the latency period is a heritage of the rigors of the long and threatening glacial epoch has not found a confirmation in the catastrophes of recent years.

And perhaps we may wonder further if this wholesale demonstration of the fruits of sadism will have any effect in persuading us to build a world where such things cannot happen again.

BIBLIOGRAPHY

Bartemeier, Leo H., and others. Combat exhaustion. J. Nerv. & Ment. Dis., **104**: 358, Oct. & Nov. 1946.

Bettelheim, Bruno. Individual and mass behavior in extreme situations. J. Abnorm. & Soc. Psychol., **38**: 417, Oct. 1943.

Brill, Norman C., Tate, Mildred, and Menninger, William C. Enlisted men discharged from the Army because of psychoneuroses. J. A. M. A., **128**: 633, June 30, 1945.

Davison, Charles. Psychological and psychodynamic aspects of disturbances in the sleep mechanism. Psychoanal. Quart., **14**: 478, Oct. 1945.

Fenichel, Otto. The psychoanalytic theory of neurosis. New York: W. W. Norton & Co., 1945.

Fisher, Charles. Amnesic states in war neuroses: The psychogenesis of fugues. Psychoanal. Quart., **14**: 437, Oct. 1945.

French, Thomas M. Defense and synthesis in the function of the ego. Psychoanal. Quart., **7**: 537, Oct. 1938.

Freud, Sigmund. Collected papers. Volume I. London: Hogarth Press, 1940.

Grinker, Roy R., and Spiegel, John P. War neuroses in North Africa. New York: Josiah Macy, Jr. Foundation, 1943.

Jekels, Ludwig. A bioanalytical contribution to the problem of sleep and wakefulness. Psychoanal. Quart., **14**: 169, April 1945.

Jones, Ernest. Psychology and war conditions. Psychoanal. Quart., **14**: 1, 1945.

Levy, David M. On the problem of movement restraint: Tics, stereotyped movements, hyperactivity. Am. J. Orthopsychiat., **14**: 644, Oct. 1944.

———. Trends in therapy; Release therapy. Am. J. Orthopsychiat., **9**: 713, Oct. 1939.

Levy, Norman A. Personality disturbances in combat fliers. New York: Josiah Macy, Jr., Foundation, 1945.

Minkowski, Eugene. L'anesthesie affective. Annales Medico-Psychologiques, **104**: 80, Jan. 1946.

Murray, John M. The syndrome of operational fatigue in flyers. Psychoanal. Quart., **13**: 407, Oct. 1944.

Nunberg, Herman. Ego strength and ego weakness. *In* Practice and Theory of Psychoanalysis. New York: Nervous & Mental Disease Monographs, 1948.

Schilder, Paul. Structure of obsessions and compulsions. Psychiatry, **3**: 549, Nov. 1940.

Zilboorg, Gregory. Anxiety without affect. Psychoanal. Quart., **2**: 48, Jan. 1933.

[8] This, as well as the high birth rate among the Jewish displaced people after liberation will be discussed in greater detail in a further presentation.

THE EVALUATION OF A PSYCHIATRIC EXAMINATION[1]

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Through a psychiatric examination the physician attempts to obtain an understanding of the presence of psychopathological reactions and their significance. He also wishes to establish the significance of psychological reactions, especially of emotions and related dynamic factors, with regard to physiological functions and life adjustment.

A psychiatric examination is not a "mental status" or "mental examination" in the narrow sense in which it was considered until recent years. The present examination attempts to understand observation by direct investigation and through interpretation. The examination must therefore be linked to the individual's life development. It is desirable, but frequently impossible, to obtain first an adequate history which will guide us with regard to our mode of approach, the lines for special investigations and sound dynamic interpretations. The recognition of the importance of the understanding of dynamic factors through obtaining a life history has led frequently to the error of considering a systematic examination unnecessary. This error may be as serious as the previous neglect of dynamic investigation. Psychiatrists and physicians may also be misguided by the belief that a psychiatric examination is primarily meant for psychiatric patients and does not include the study and evaluation of emotions in any condition where they play more than incidental roles, as in the so-called psychosomatic conditions. There is still an impression that a complete psychiatric examination is indicated in "psychotic" patients only. The concept "psychotic" originated in the period before the development of dynamic psychopathology, and its validity cannot be maintained any longer. Examinations as presented in most textbooks are too much directed at findings of the unusual type and not sufficiently at the need to note and understand the less obvious.

A psychiatric examination must be based on modern psychopathological principles. It must use the experimental approach which was introduced into psychopathology by Kræpelin, the psychodynamic investigations and evaluation of Freud, and the study of physiological and environmental factors which have been urged by Adolf Meyer.

A psychiatric examination presents a series of experiments which are linked closely to each other, and the results can be interpreted correctly only after the whole examination has been finished. With our present knowledge, most of the results can be interpreted tentatively only and need to be verified by further investigations in the course of treatment. As long as our method is adapted to the individual patient, the order in which one proceeds is less important than that one considers the examination as a whole. A warning is indicated against attempts to abbreviate the examination or to omit some parts because they do not seem indicated. Tests for specific thinking disorders, *e.g.*, in schizophrenia, must be statistically reliable and their validity demonstrated before they can be used by clinicians. This requirement makes most of the frequently recommended tests valueless.

Observations which are described under behavior and characteristics of talk include everything of importance during the whole examination. The same applies to emotional reactions, preoccupations, memory functions, and thinking. All these specific functions may vary in the course of a short time according to the varying activity of dynamic factors and correlated emotions. There is a tendency to accept some observations as well defined and generally understood instead of constantly keeping a questioning and inquisitive attitude. One may be satisfied in calling somebody retarded in his behavior instead of investigating whether one deals with an actual slowing in thinking and acting, with indecision, or with inhibition. Over-

[1] Read at the 104th annual meeting of The American Psychiatric Association, Washington, D. C., May 17-20, 1948.

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activity may be the expression of elation and well-being, or of a combination of various emotional forces including anxiety, or of specific psychodynamic or physiological factors. The characteristics of talk express the person's thinking and his use of language. A phenomenologic description is insufficient. One must look for the meaning of disorders by considering the influence of psychodynamic forces and of emotions. In the study of emotions, type, intensity, acuteness, and duration, as well as psychodynamic implications, are important. Their influence on attention, concentration, memory functions, and thinking will help in confirming the patient's subjective statements. Preoccupations reveal dynamic strivings and emotional components. The intactness or the impairment of orientative and intellectual functions must be evaluated with consideration of psychodynamic, physiologic, and environmental factors.

A systematic, experimental approach will permit us to obtain a great deal of knowledge and understanding from a psychiatric examination. Progress in psychopathology is offering increasing possibilities for experimentation and for making a psychiatric examination a scientific procedure with objectively demonstrable results. Interpretation, which will always be important, should be restricted and guided by facts. Some past and recent experiments which have been carried out in the Payne Whitney Psychiatric Clinic will illustrate the progress of experimental psychopathology and its significance in the evaluation of a psychiatric examination.

Experimental Discussion

Experimental studies of emotions have been most fruitful(1). One still is guided largely by the subjective description elicited by the physician through nonsuggestive questioning. In addition, however, one looks for physiological symptoms which will corroborate the subjective description; *e.g.*, changes in pulse rate, blood pressure, blood sugar, leucocytosis, and adrenalergic and cholinergic substances in the blood. The dream life may offer a glimpse into the emotional background and through skillful analysis and evaluation reveal suppressed and repressed emotions and the related dynamic forces. Similar results may be obtained through the intravenous use of barbiturates. These additional examinations illustrate the fact that we do not wish to deal with a status præsens or mental status any longer, but with a planned examination which may have to be extended over several days. In the psychopathological field, experiments have demonstrated that various emotions express themselves differently. Anxiety, for example, readily affects attention, concentration, learning, and retention(2). Some of these results (attention and concentration) can be seen in the usual type of psychiatric examination while others (learning and retention) can be demonstrated only by special experiments. Nevertheless, the knowledge is important that in experiments with the maze test the influence of anxiety slowed learning and affected retention unfavorably. It forces us to be cautious in evaluating defects in learning and remembering in the presence of marked anxiety. The influence of anxiety on attention can be readily recognized by the shortening of the span of digits before an error is made, when the patient repeats digits which are read to him. There is a statistically reliable difference of one digit in the presence and absence of marked anxiety tested in the same patient. Among 50 patients, the average number of digits repeated was 7 with, and 8 without, anxiety. When patients were requested to repeat the digits in reverse order, the average was 5 digits with, and 6 without, anxiety. (The repetition of digits in reverse order does not offer important additional information, and might be omitted from the examination.) These statistical data mean clinically that under the influence of anxiety an intelligent person may have a digit span of 5 or 6 or 7 while the same person in the absence of anxiety will repeat 8 or 9 digits. The adverse effect on concentration by anxiety, and especially by tension, is demonstrated by mistakes in the serial subtraction of 7 from 100. This simple concentration test has been found to be very valuable among our patients, who made 1 to 2 mistakes under influence of tension, whereas no mistakes were made when tension had subsided. Clinically most prolonged tension states are accompanied by varying de-

grees of anxiety. There does seem to be, however, a demonstrable difference between anxiety and tension as expressed in their psychopathological influence and significance.

The same emotion, *i.e.*, anxiety, seems to exert a different influence in different individuals. This fact is well recognized with regard to physiological functions, but little with regard to psychological functions. While the vast majority of patients revealed the influence of anxiety on attention, a small group only expressed it in difficulties in thinking, that is, in calculation and in giving correct general information. In these patients we may have dealt primarily with anxiety-determined disorders of attention which prevented the free use of intellectual functions. There is, however, a small group of patients in whom anxiety can effect a far-reaching disorder of reasoning. For 3 years we have studied the influence of anxiety on reasoning by offering a group of problems in inductive reasoning. The problems can be solved by children of the intelligence of 14 years. The subject was required to determine the causal factor which lighted a bulb in 2 rows of pictures, but not in a third row. The causal factor was indicated by the presence of the same picture in the 2 rows with lights, and by the absence of this picture in the row which had no light. The same type of problem was also given with pictorial material only and, lastly, with given problems in written form(3).

In a group of 185 patients of superior intelligence, 72 patients with obvious anxiety had failures in the written, and occasionally in the other, tests. No failures occurred in the absence of anxiety. When the tests were repeated 2 to 6 months later, after anxiety had subsided, the tests were well performed by the patients who had previously failed.

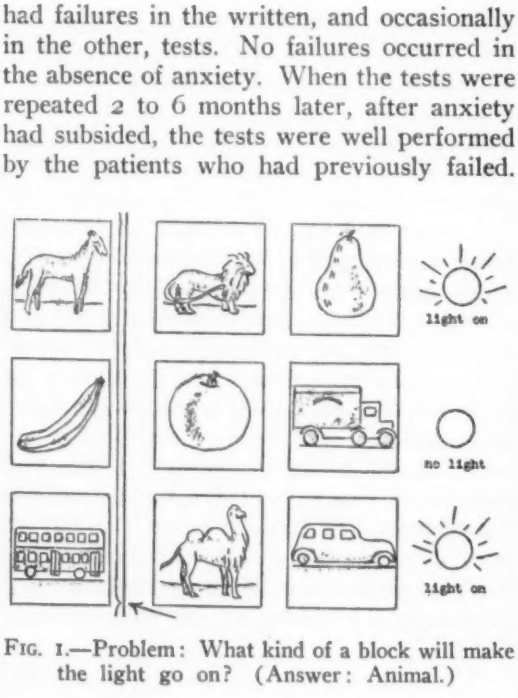

FIG. 1.—Problem: What kind of a block will make the light go on? (Answer: Animal.)

On the other hand, there were a considerable number of patients who performed well despite the presence of anxiety. In 2 cases the patients performed well the first time when anxiety was absent, but performed poorly a few months later in the presence of anxiety. The patients with marked failure were recognizable clinically by vagueness of thinking and often mild but definite incoherence or pathological circumstantiality. This thinking disorder suggested the possibility of unintelligence or a schizophrenic

Clam		Crab	..... Well
Crab		Oyster	..... Sick
Oyster		Clam	..... Sick

Clam, *Oyster,* Crab

Coca Cola	Cocoa	Tea	..... Sick
Grapejuice	Gingerale	Coca Cola	..... Sick
Grapejuice	Gingerale	Milk	..... Well
Milk	Tea	Cocoa	..... Well

Gingerale, Cocoa, *Coca Cola,* Milk, Grapejuice, Tea

Squab	Grouse	Pheasant	Chicken .....Well
Partridge	Quail	Grouse	Pheasant ..... Sick
Quail	Goose	Squab	Duck ..... Well
Duck	Partridge	Chicken	Goose ..... Sick

Pheasant, Quail, *Partridge,* Goose, Squab, Duck, Grouse, Chicken

FIG. 2.—Problem: What kind of food will make the man sick? (Answer: Italicized word.)

disorder. It should be mentioned that these observations were made in depressed, psychoneurotic, and schizophrenic patients. In the schizophrenic patients, this type of thinking disorder was observed only in the presence of anxiety and never in the absence of anxiety. These observations force one to recognize the possibility that anxiety may affect reasoning to a far-reaching extent. A mild degree of this type of thinking disorder will not be noticed in a psychiatric examination and is clinically unimportant. A marked degree is important for diagnostic evaluation and for psychiatric treatment. These psychopathological observations in schizophrenia should also make one hesitate to accept the concept of a specific schizophrenic thinking disorder without evidence of it from studies which consider the possible influence of emotions.

Psychodynamic clinical studies of emotional reactions have given valuable information for the evaluation of psychopathological symptoms. Studies on fear and panic have revealed the possibility of paranoid projections and disorganizing possibilities of these emotions. The importance of emotional factors in the psychopathological reaction of aversion is now accepted and has led to a differentiation of aversion from negativism. Recent psychopathological investigation of resentment has been revealing. Resentment, the emotion which accompanies hostility, may readily lead to projections which suggest a paranoid picture when this emotion is directed to the outer world. In a need for retaliation a person may satisfy otherwise unacceptable desires, and this act may then be followed by guilt and resentment to oneself. An underlying feeling of being resented or rejected by others is an essential feature of all resentment. At times, this factor may become dominant, resulting in unhappiness and sadness overshadowing or replacing the emotion of resentment. At this stage the biochemical and physiological features which accompanied the resentment subside, as we observed in several patients who suffered from essential hypertension. In these patients blood pressure was markedly increased in the presence of resentment and markedly lower in the brief periods of sadness. Corresponding changes were noted in adrenalergic and cholinergic substances in the blood(2).

Experimental studies of memory functions have made psychiatrists aware of the need to evaluate the influence of emotion and of psychodynamic factors. Interests and attention, repetition and perseveration are other important factors. It is not justified any longer to consider memory disorders separate from the other personality functions. In the case of a senile patient whose progressive memory disorder I have followed for 10 years, the patient has always recalled best what was of interest to her. "Forgotten" material which I was not able to elicit was reproduced readily when it became of interest to the patient because of associated material. A marked and selective limitation of interest made the patient turn from the essential to the unimportant. Many new experiences were retained, but were not available except in a special associative setting. Selected affective experiences were well retained, while others were either not retained or were repressed. Unconscious dynamic factors may influence the memory functions, as was clearly evidenced when she recognized certain features of her son-in-law whom she had unconsciously rejected and combined them with others of her beloved family physician. Thus her son-in-law was recognized as her family physician. In evaluating this patient's memory difficulties one has to be aware of the previously mentioned fact that anxiety will increase any existing memory disorder. This observation is clinically most important because it implies that, if psychiatric treatment is successful in alleviating or decreasing anxiety, an incapacitating memory defect may become practically insignificant. These observations have made us more hesitant in diagnosing arteriosclerotic deterioration and more optimistic in our therapeutic endeavors.

The psychiatric examination tests the recall of immediate impressions (repetition of 3 nonrelated words and recall after 3 minutes) and of memory for recent and remote events. There are no tests to evaluate retention directly although the incorrect use of the word retention may give this impression. Experiments with the maze test have demonstrated that anxiety may affect learning and retention adversely. Further investi-

gations of learning and retention by other experimenters should give us valuable information in many psychopathological conditions and lead to the development of simple tests which can be included in the examination.

Decrease of attention through anxiety, and to a lesser degree through tension, has been mentioned in the example of the span of digits. Similarly I have referred to decrease of concentration through the influence of tension. There is evidence that this decrease may be a direct result of the emotions. On the other hand, the same effect may be obtained indirectly through distractibility. Little is known about this phenomenon which may be primarily in the auditory or visual field and then be related to elation and anxiety. Distraction through body sensations seems to occur in tension states and in conditions where ill-defined neurophysiological factors play a role; for example, in Kleist's confusional psychoses and in epileptoid reactions.

Quite unclear is the psychopathological significance of disorders of so-called passive attention. In our testing of this function, the patient listened to a story read by the physician and tapped whenever a certain word occurred(2). The number of units retained when he repeated the story immediately after the reading was used as a measure of passive attention. The average number of units retained was 9 or higher. A decreased number (from 8 to 0) occurred under pressure of various emotions (anxiety, tension, fear) but also without them. It is unclear what other factors might contribute. Bleuler's contention of an essential difference between seniles and schizophrenics cannot be supported by our experiments.

Decreased and increased speed of thinking and poverty and wealth of ideas have been assumed in connection with depressive and elated states. Hyperassociative activity was found in elated states. In more recent experiments we have been able to demonstrate that this occurs in pathological elations of hypomanic and manic patients and in moderately elated states of normal individuals(4). This tendency is increased in persons with artistic training. In these patients a statistically reliable increase in the number of answers in the Rorschach experiment occurs simultaneously. The reaction time was shortened, while in some depressed patients one noticed a lengthening. It is obvious from these observations that many factors enter into our speed of thinking and that one has again to consider the whole examination in order to understand such phenomena. These experiments do not prove slowing in depression and increased speed in elation. These two emotional reactions are complex reactions and it is not clear yet from our experiments what rôle anxiety and tension play(5).

In any experiment, the patient's ability to grasp the situation is a prerequisite. A reliable test for an evaluation of grasp, immediate memory and recall, and the eliciting of confabulation is the "Cowboy Story," which can be divided into 27 logical units.

A cowboy[1]/ from Arizona[2]/ went to San Francisco[3]/ with his dog[4],/ which he left[5]/ at a friend's[6]/ while he purchased[7]/ a new suit[8] of clothes./ Dressed finely[9],/ he went[10] back/ to the dog[11],/ whistled[12] to him,/ called him by name[13]/ and patted[14] him./ But the dog would have nothing[15] to do with him,/ in his new[16] hat/ and coat[17],/ but gave a mournful[18]/ howl[19]./ Coaxing[20] was of no effect;/ so the cowboy[21] went away/ and donned his old[22] garments,/ whereon the[23] dog/ immediately[24]/ showed his[25] wild joy/ on seeing[26] his master/ as he thought he[27] ought to be./

The average number of units recalled under influence of anxiety is 10, and 15 without anxiety. Anxiety and tension may affect the test adversely, resulting in the recall of 5 to 10 units or even less. Neurophysiological factors and strong emotions which affect the clarity of consciousness as well as disturbance of attention would also interfere.

Evaluation of clarity of consciousness and of comprehension is most difficult as no reliable methods of investigation have been found. The importance of this problem is evidenced by the results of some of our experiments on epileptic, epileptoid, and postconvulsive disorders of thinking(2). The investigations of postconvulsive disorders

were carried out after electrically induced convulsions. The patients were shown 4 pictures of scenes of increasing complexity and 3 pictures of geometrical designs formed by well-spaced dots or brief lines. In the states of disordered consciousness of all 3 types, the patients were unable to see the pictures as a whole, but described well separate items which were not related to each other. When this condition was marked, perseveration was present. When the patient seemed clear to the observers, mild disorders were still elicited in the test.

The analysis of intellectual functions must take into consideration all the points which have been mentioned in this presentation. If one assumes such a critical attitude, one will hesitate to accept signs of early deterioration, whether they be schizophrenic, epileptic, or cortical in nature. One will also have grave doubts with regard to the present claims of specific schizophrenic and other thinking disorders.

It is of interest to note that the relatively simple information which is asked for under general information may not be answered perfectly by intelligent and well-educated people. This fact indicates a surprising limitation of interests in daily life, of strong preoccupations or various types of thinking disorders. Failure of performing well in the experiments which are produced through various types of calculation reveal intellectual defects, thinking and attention disorders, or physiologic factors (fatigue, toxic factors).

The many factors which may affect a person's "judgment" and the significance of "insight" are well recognized in dynamic psychiatry. There has, however, been little psychopathological experimentation in this field. "Insight," which refers to the patient's awareness of the character of his illness and of the special dynamic factors involved, may be confused with superficial understanding. It may happen that psychiatrists do not recognize sufficiently the patient's awareness of being ill and the importance of this feeling sick as a basis for a desirable patient-physician relationship.

SUMMARY

A psychiatric examination consists of a group of experiments. The specific findings elicited must be evaluated in relation to all the other psychological, psychopathological, and physical findings, with attention to the life history and to environmental influences. The examination is adaptable by the skillful physician but only if it is given in completeness.

Experimental psychopathological studies have contributed considerably to a better use of psychiatric examinations. These studies have been especially important in the determination and understanding of emotions. Tests which we used in the current examination procedures have proved to be statistically reliable tools for examination of attention, concentration, memory, and thinking. The refined evaluation of the findings of a psychiatric examination make the current procedure valuable in the study of all psychiatric conditions, including psychosomatic reactions.

BIBLIOGRAPHY

1. Rapaport, D. Emotions and Memory. Williams and Wilkins, Baltimore, 1942.

2. Diethelm, O., and Jones, M. R. Influence of anxiety on attention, learning, retention and thinking. Arch. Neurol. and Psychiat., **58**: 325-336, 1947.

3. Welch, L., and Long, L. Psychopathological defects in inductive reasoning. J. Psychol., **21**: 201-226, 1946.

4. Dougan, C. P., and Welch, L. A study of elation making use of the Rorschach test and an association test. J. Psychol., 1948. In press.

5. Welch, L., Diethelm, O., and Long, L. Measurement of hyper-associative activity during elation. J. Psychol., **21**: 113-126, 1946.

PSYCHOLOGICAL SIGNIFICANCE OF PHYSICAL RESTRAINT TO MENTAL PATIENTS [1]

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Ever since chains and manacles were removed from the mentally ill, the general tendency of both the lay and the professional public is to regard any form of restraint employed upon the mentally ill patient as an undesirable, abhorrent, deplorable, punitive practice. Unwilling, grudging recognition is given to the fact that restraint is necessarily an integral part of the care of the institutionalized mental patient, since even the fact of hospitalization itself is a form of physical restraint. All too often there is a mistaken, unintentional disregard of the patient's own needs for protection from the self and from others, and a maintenance of false standards in the hospital by which the patient's welfare is really disregarded in favor of uncritical, uninformed public approval.

Rationalizations and justifications of restraint are offered in apologetic declarations, often true, that restraint is frequently necessary for the protection of both patients and others. Every effort is made to reduce the amount of restraint necessary and to seek for types of restraint that are less obvious, more concealed, and not so striking and so offensive to the eye of the observer, and the general policy of most mental hospitals is to decry the use of restraint as a shameful punitive practice.

Little is to be found in the literature concerning the meaningfulness and the significance of restraint to the individual patient. That which can be found is usually expressive of the generally accepted attitude of the wrongfulness of restraint. The problem of how the patient in restraint feels about it, what purposes restraint serves the individual patient, and the personality needs affected by the restraint are all disregarded in the general condemnation of restraint.

However, before reporting upon observations of the meaningfulness of restraint to mentally ill patients, certain items of common knowledge and experience will be cited as a measure of orientation. These will be mentioned briefly, and without much elaboration since they are self-explanatory.

First of all, there is the example of the frightened, hurt, sick, anxious, insecure baby or small child who desperately wants and needs to be held tightly in the confining safety of his mother's arms, and the more tightly he is held, the safer he feels.

Then there is the nervous passenger on the airplane whose sole comfort and security on a long trip is the carefully tightened safety belt.

Consider the soldier assigned to overseas duty bidding his wife farewell, both of them wanting and needing to embrace with a painfully tight embrace, to quote, "Hold me so tight I can't even move."

There is also the soldier under fire who wants the shelter of a foxhole, not a big, roomy, comfortable foxhole, but one that is just barely large enough to crowd into so that he can feel the comforting restraint of the solid, unyielding earth.

In bomb shelters a frequent request was, "Hang on to me, don't let me make a move." Frightened, terrified, distressed people need to huddle and crowd together in order to get the comfort of a form of physical restraint that paradoxically gives them a feeling of security.

Then there is another type of analogous behavior expressive of deep underlying fundamental needs in regard to spatial relationships. It is the need of little children to get into and to crawl through small apertures. They squeeze between chairs rather than walk around them. The closer the bed is to the floor, the more important it becomes to crawl under it. The drainage pipe, the keg or barrel on the way to school are the delight of the child and the bane of parents and police.

Mention is made of these items since they

[1] Read at the 104th annual meeting of The American Psychiatric Association, Washington, D. C., May 17-20, 1948.

[2] Wayne County General Hospital and Infirmary.

illustrate so clearly that any comprehensive view of physical restraint must encompass normal needs and desires as well as normal abhorrence of restraint. Ordinarily restraint is looked upon as an administrative problem that reflects to the discredit of the authorities, as something to be avoided and minimized, with no real consideration given to the actual significance of restraint for the individual patient. During 20 years of experience, there has been ample opportunity to discover that physical restraint should properly be viewed as a specific experience of great meaningfulness to the individual patient.

No attempt will be made to offer a statistical study for the reason that physical restraint is often a matter of good administration and housekeeping, as well as a matter of psychological experience of great importance to the individual patient.

In following the clinical course of patients from the time of admission to the time of discharge there has been an opportunity to discover how patients not only reacted to restraint but what it meant to them as persons. In order to clarify this problem, various individual case histories will be cited and those given will be selected on the basis of their representativeness of how patients actually do respond to restraint.

There was Pauline, whose clinical course was marked by recurrent disturbed episodes of 2 to 3 weeks duration, during which she was combative and complete physical restraint seemed to be the only measure possible to control her. Observation disclosed that each such episode was prefaced by an hour or two of anxious fearful behavior during which she would huddle in corners, crowd between a bed and the wall, or hide between the mattress and the bed springs until she lost control of herself. Experimentation disclosed that whenever Pauline manifested this type of behavior, her disturbed episode could be aborted by forcibly placing her in a tight wet pack against which she would struggle violently for a few minutes and then lapse into a restful sleep and an hour later she could be released without fear of disturbed behavior.

Sarah and Harold were 2 disturbed manic patients; their proud boast was that it required at least 6 attendants to put them in restraint, and they would rage furiously throughout the time they were in restraint. Both explained inadequately their need to fight something and an agreement was reached with them that they could have any form of restraint any time they wanted it and for as long a time as they felt they needed it, this agreement being reached before their disturbed behavior began. Both patients tested the physician's sincerity and when they discovered that they could rely implicitly upon him the restraint problem was greatly minimized. Thus Sarah, quiet, orderly, well behaved, at 9 o'clock would state, "At 11 o'clock, put me in full restraint, let me fight it out until 2 o'clock, then you can release me. Never mind what I say before 2 o'clock."

Harold would declare, "You better keep me in restraint today until the medical students arrive, and when they get here, let me out for about 2 hours. I can take that much time but don't try to stretch the time."

It became possible with these 2 patients as well as others to arrange to put them in restraint for an agreed-upon period of time, sometimes as little as 5 minutes and render unnecessary further restraint for even several days.

Jimmy and Frank were both graduates in psychology and both had clinical histories of catatonic stupors of months in duration. Both explained that something would happen within them that they could not control except "by freezing up and then it takes so long to unfreeze. Can't you do something to freeze me and then you can unfreeze me and I won't be in a stupor so long." Their wishes were met by the expedient of full rigid restraint, and instead of a stupor of many weeks' or months' duration, restraint of a few days against which they fought and struggled incessantly met their needs.

Albert, Jack, and Johnny had ground privileges but periodically became disturbed and violent and had to be returned to the closed ward for weeks or months at a time. Experimentation disclosed that they all became aware of impending disturbed states and that these could be abbreviated by placing them in seclusion rooms and letting them give vent in an uncontrolled fashion to their inner distresses for an hour or even a day and then they could be returned to ground privileges.

Teresa was a quiet, orderly patient who periodically developed prolonged periods of violently aggressive behavior. Systematic inquiry disclosed that "external unknown mystical forces" seized upon her and forced her to do things against her will. Experimentation disclosed that a belt and wristlets constituted a perfect defense against those unknown forces and by keeping the wristlets loose she was at liberty to free her hands at any time or to place them back in the wristlets in full accord with her personality needs. She wore the belt and wristlets for many months as a form of magical armament against uncontrollable hostile forces.

Eddie and Gerald were 2 chronic patients who periodically enjoyed ground privileges or were on the closed ward because of disturbed behavior, sometimes lasting 3 or 4 months at a time. Experimentation disclosed that heavy sedation from 24 to 72 hours followed by 1 or 2 days' seclusion with or without physical restraint would actually abort their disturbed periods.

Marie, who suffered from an agitated depression, would plead piteously not to be placed in restraints. This type of pleading always occurred when she

became tremendously distressed by suicidal compulsions, and it was her way of so informing the ward physician. Only one type of restraint was suitable, namely, belt and wristlets, and once placed in restraint she would struggle and quarrel with the restraints as a measure of keeping compulsive suicidal ideas out of her mind. When well along in her convalescence she would now and then beg frantically for restraints, and, upon the granting of her request, would scold and struggle furiously against the restraints. Subsequently, she would explain how necessary it had been to her, as a person, to be in restraint and thus to free herself of compulsive self-destructive ideation.

Gertrude was a violently disturbed paranoid schizophrenic, who required full restraint because of her combativeness. However, it was discovered that she looked upon restraint as proof of her divinity, and that she utilized violence as a means of insuring the presence of such proof. Accordingly, arrangements were made with her to have whatever restraint was necessary to satisfy her personal beliefs, with the result that her violence disappeared.

These are but a few of the many cases that could be cited. They all serve to illustrate the importance of looking upon restraint from the patient's point of view and not from the normal person's point of view of abhorrence. It is true that patients do not like physical restraint, but it is also true that human nature tends to regard a repugnant remedy as effective. The disturbed patient needs something more concrete to fight than unknown unrealized personality conflicts. The symptomatic needs of the patient are tremendously important and adequate respect should be paid them. Physical restraint should not be purely an administrative problem, nor just a matter of good housekeeping, nor ever an item of punishment as it so often is. Instead, it should be viewed as a symptomatic measure intended to meet a patient's needs. Everyone recognizes that a patient's aggressive tendencies can often be met by letting them drive nails or tear rags in the O. T. shop. The same holds true with restraint. Experimentation has disclosed that patients ordinarily kept in restraint can have their distorted psychotic needs met with a reality that they can actually fight, resent, and discard with an actual sense of personal achievement. Often full restraint for as brief a period as 10 minutes will serve to enable a patient, who otherwise would require 24-hour restraint, to make a good ward adjustment throughout the day. The employment of restraint as an immediate therapeutic procedure instead of as a punitive last-resort measure would serve greatly to better both the patient's and the general public's attitude toward restraint.

This is not a plea for more restraint. Rather, it is a plea that, when used, restraint should be employed with the full realization that it can be made a therapeutic experience for the patient.

THE CLINICAL IMPORTANCE OF SOME NORMAL ATTITUDINAL AND IDEOLOGICAL TRANSITIONS OF MID-LIFE[1]

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The purpose of this presentation is to attract attention to certain aspects of personality organization and functioning that have significance in the development of personality disorders during the period of life from the mid-twenties to the mid-thirties. The dynamic importance, to clinical psychiatry, of the modifications in personality organization and functioning that occur during the phases of childhood, adolescence, the climacteric and senescence has been emphasized for years. Attitudinal and ideological transitions normally concomitant with the life period from approximately age 25 to 35 years may be of equal dynamic importance to the psychiatrist in determining the meaning of many of the psychiatric disorders common to young adults.

Growth, functional developments and their integration, and the organization of personality, as maturity is acquired, are not only irregular in occurrence from time to time and from person to person, but also need to be weighed in terms of a multitude of modifying factors. Therefore, in opening this discussion, I wish to bring to your attention that the oversimplification inherent in making the generalizations necessary to keep within the time limit could be misleading if, for any reason, the concept to be offered is accepted as other than a starting point in the consideration of the complex functions of man during the period of life as defined. For the same reason, I wish to caution you that academic license is indulged in in the categorical differentiation of the course of mature life into so-called periods.

In a communication(1) of 7 years ago, reference was made to the fact that it was believed that *changes* in the individual's appreciation for responsibility, in his perspective and self-appraisal which are characteristic of the late twenties were of considerable clinical importance in the development of so-called psychogenically determined gastrointestinal disorders, common to early adult life. Further study and treatment of cases seen both in clinic and private practice seem to substantiate this earlier contention.

Frequently an obviously ill patient, whose age is somewhere between the mid-twenties and mid-thirties, is seen, who on examination may reveal personal experiences and past reactive capacities that make it easily possible for the examiner to conclude that the patient is maladjusted and obviously reacting adversely to something. A study of the environmental setting in which the illness developed often offers little in the way of stress- or conflict-producing factors to explain sensibly why the patient is presently ill. Just as often the patient may be seen manifesting a "psychosomatic" or affective disorder who simply exudes heavily charged conflict material but which he or she apparently has carried, without too much difficulty, until the onset of the present illness. All such data, when elicited, may seem at the beginning to be sufficient on which to base definitive therapy. Yet, after weeks of therapeutic effort, resulting in a modification of situational factors and the resolution of the more obvious personal problems, the patient remains fundamentally and actively maladjusted. Is it mere chance that early childhood insecurity, emotionally traumatizing experiences of the past, etc., plus the ordinary vicissitudes and strains of early mature life, singly or together, just begin to be operative at age 25 or 30 years? Operative to the extent often of producing a depression, a state of irritability, one of bewilderment and confusion or a state of tension with concomitant peptic ulcer, mucus colitis or migraine, whether or not the individual at one time or another ever manifested evidence of the capacity to so react. The question then is, has there occurred something in the way of personality organization and fundamental reactive capacity which allowed past experiences and present circumstances to assume greater significance than before and to become dynamically operative?

[1] Read at the 104th annual meeting of The American Psychiatric Association, Washington, D. C., May 17-20, 1948.

In the understanding of the personality difficulties of childhood, adolescence, and senescence, the reaction of the patient must be evaluated in terms of changes in his personal and emotional needs, elaboration of his instinctual drives, alteration in his ambition and goals, his ideological and attitudinal problems, qualifications in his concepts of time and variations in perspective, changes in affective responsivity, biological variations, etc. So in answer to the previously stated question, as to whether personality and experientially determined factors just begin to be operative in the late twenties, perhaps it can be reasonably assumed that factors incident to early mid-life, and in ways similar to those dynamic in other periods of life, might very well place the individual in a relatively vulnerable position. In addition, all of this could render him insecure, therefore tense and anxious, and, as a result, so disturb the relative harmony of his internal milieu as to allow old emotionally charged material and experiences, latent resentments and hostilities, etc., to break through to add to his burdens and adjustment problems. My experience leads me to believe that in the mid or late twenties there begins a normal phase of mature life in which a re-evaluation of the self, including a reorientation as to personal assets and liabilities and a more economical revamping of the individual's personal "government" is essential.

In addition, it is furthermore believed that the ideological, attitudinal, and philosophical revisions, and the associated problems normally concomitant with this first important period of mature life, *are* of considerable clinical importance in that they frequently render the individual temporarily and relatively more susceptible to many average stresses and strains.

Having advanced a hypothesis which in practice has proved diagnostically and therapeutically helpful there remains the obligation of offering additional explanation of it.

To begin with, an earlier phase of life, namely, adolescence, might be taken as a starting point and the phenomena of personality development incident thereto and presently under discussion traced through into the late twenties and early thirties.

During the various phases of adolescence the individual must, among other things, adjust to and accept changes in body configuration, the incoming of new hormonal functions and chemical integrations, new emotions, sentiments, and attitudes, elaborations in concept formation, newly amplified drives and strivings, needs for more comfortable and realistic moral-ethical codes, new types of inquisitiveness, the need for developing and maintaining differentiations such as exist between love, allegiance, sex drives, etc. This is a stormy time. Relative adjustment and maintenance of personal efficiency is enhanced by the enchanting interest of the adolescent in rapidly unfolding world experiences, the swift passage of time, and the constant state of flux of the individual's internal milieu. Some time along in the late teens or early twenties there comes into effect an apparent settling down. At this time the individual, barring irregularity and/or immaturity in development and organization, finds himself in a period of life in which exuberance, abundance of energy, and a newly felt type of security are characteristic. Time means little, the future is endless, tomorrow has little meaning, yesterday less. Today is a wonderful day. The "candle" can be burned at both ends. The rebound is phenomenal. Ambitions are high though truly ill defined, and there seems to be plenty of time in which to attain them. Living is at its acme and life is literally taken in "gulps." Careers are entered upon, emancipation is being effected gradually, and any emotional wounds that occur heal by first intention and often quickly. One lives for the future—contracts are made and responsibilities assumed frequently with a mere "I do."

Then somewhere along the latter part of the third decade of life (in many cases at about 25 or 26 in the woman and 26 to 29 in the man) occurrences of today and this week assume more importance, for the accomplishments of the future may depend on them. The individual's concept of time narrows from that of an interminable period to a vague realization that there may be limits to it. At the same time there occurs in the personality a change in general resilience when it is subjected to the pressures of life. Associated with this is an initial realization that one has limitations and that some modifica-

tion of pace is mandatory. The athlete, as he reaches the late twenties, is an "old man"; the student finds himself busy with the practical application of fact, frequently interfered with by environmental circumstances. Thus without the person's actually appreciating what is happening, a necessity to give attention to the maintenance of efficiency for tomorrow and the next day insidiously makes itself felt and requires some formulation and acceptance of rules and regulations of living that will fit his requirements. It becomes obligatory that consideration be given not only to harnessing the zest and zip of a few years past, *i.e.*, conserving energy, but there must be developed a better balance between rest, recreation, and work. In this situation the individual may experience inadequacy feelings on comparing himself with others, frustration, impatience, and for the first time feel a need to hurry, all counteracted by the caution that is inherent in the relative insecurity experienced.

With all these variations and changes involving the concept of time, incoming reevaluation of personal capacity and status in the world, the individual, as he approaches the early thirties, is confronted with a realization that goals must be more specific, and that his ambitions most probably must be scaled down. At least there is a narrowing of choice and attainment and the general life course appreciated in terms other than the mere hopeful and wishful thinking that sufficed a few years before. It is inevitable then that the chances of possible failure should be appreciated consciously. The result is that a new perspective as to the person's status in comparison with others, in a field of competition, begins its formation. Naturally enough man may feel his insignificance, especially since his ultimately mature senses of value are but in a developmental stage and have not yet become comfortable working integrants of his personality. Some degree of self-depreciation and aversion to newly evaluated personal attributes would therefore appear to be expected and if such occurred could lead to an increasing need to play safe. This could result in an amplification of any previous existing obsessive and compulsive trends.

Certainly if all these phenomena actually take place as they seem to in some measure, there is a need for an increase in the personality's internal state of preparedness, namely, increased tension, with all its psychobiological components and overtones. The tension-susceptible, the fragile and the emotionally immature personality, certainly, may find a satisfactory and comfortable adjustment, under these circumstances, very difficult indeed.

There are other phenomena common to this phase of maturation. As the self-discipline previously referred to becomes operative, many vicissitudes of seeming interfering nature are often encountered by the person. For example, as security in independence is striven for, altruism as entailed in being one of a new or at least a potential family unit may require constant modifications in the application of the new rules and regulations pertaining to one's self. In other words, the individual must learn to be patient until a reasonably comfortable balance between egoism and altruism is gradually attained. If impatience with or an uncomfortable balance of these factors is struck, the realization of the full responsibilities and obligations, not only to one's self, and one's family, but to one's community and social groups, in addition to the natural feelings of uncertainty previously alluded to, can easily exaggerate the person's need for appreciation, prestige, and ways of measuring success and failure. Inasmuch as adeptness in estimating one's own accomplishments may not be sufficient as yet, and since confrères, of the same age group, by virtue of being in a similar predicament may overlook the other's personal needs for approbation, conflict and tension-producing attitudes can easily evolve. In addition to these, the consequent interpersonal misunderstandings and frictions not infrequently appear to be dynamically operative in the production of some of the personality disorders of mid-life.

Last, but not least, as the individual finds direction in his way of life, and begins to strive in a more economical fashion to utilize his assets and liabilities in driving toward his primary goals, he often begins to experience, or becomes aware of for the first time, some of the biological rhythms common to adult life as manifested in variations in fitness, lethargy, moods, etc. At times, depend-

ing on the relative state of personality organization, there may be a continuance of the irregular rhythms of immaturity, in which event they often are experienced in an exaggerated fashion. From such incidents that not infrequently appear to take place between the ages of 25 and 35 years, there seem to stem a fair number of the affective disorders, confusional states, and invalid reactions that we are called on to treat.

If these phenomena outlined as being prominently common to this phase of life really occur, as they appear to, they could very well be of considerable dynamic significance in the production of discontents, states of irritability, and feelings of insufficiency. In a like fashion the phenomena alluded to could, at times, bring about the unhealthy digestion of past experiences laden with conflict and distressing emotional charges, the futility feelings, insecurities, transient introversive trends, compulsive and obsessive tendencies, and biased points of view so frequently occurring in an interfering way for the first time during the period of life presently under consideration. It appears to me that such occurrences, at least, account for many of the tension and concomitant anxiety reactions so frequently met with in people of this age group. With the increase in tension and the consequent occurrence of anxiety, disharmony in the interval milieu can easily occur with resultant inadequacy reactions, affective variations, and particularly the multitude of so-called "psychosomatic" reverberations that cause so much primary noneffectiveness. Thus, too frequently, through the nonrecognition of the facts, these occurrences, as indicated, can lead to the inadvertent treatment of innocent functions and organs and even the partial evisceration so frequently occurring in everyday medicine and surgery.

In concluding these various thoughts concerning the personal needs and psychobiological problems common to mid-life, which may be productive of hampering functional disorders of personality, I should like to invite others to evaluate the relative dynamic rôles played by such occurrences in the production of mental ill health along with the weighing of the importance of situationally and other personality-determined factors of the past and the present. In treatment of the patient, the past is still operative in the present and must be utilized if it has meaning in the life of the patient. However, in using such material I feel it must be significantly reformulated in keeping with the patient's existing predicament, phase of personality organization, and methodology used by him in attempting to implement his policy of life and to operate his "personal business of living" satisfactorily, comfortably, and economically. In my experience the constructive utilization of such ideological and attitudinal developments of mid-life as have been mentioned are not only important in directing group therapy projects, premarital counselling, preventive psychiatry via mental hygiene education, but is essential in the understanding and definitive psychotherapy of the individual.

My hope is that others will find it possible to crystallize and report their clinical experiences and impressions concerning the meaning and possible significance of what I have alluded to as being some of the normal attitudinal and ideological developments of mid-life.

BIBLIOGRAPHY

1. Billings, Edward G. Repercussions of personality disorders. Wisconsin Med. J., August, 1941.

A SOCIOPSYCHIATRIC STUDY OF TWENTY-FIVE YOUNG OFFENDERS [1]

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Introduction

The purpose of this study is to report the sociopsychiatric findings of 25 consecutive white, male offenders between the ages of 16 and 20. All these offenders were brought before the Court of General Sessions, New York City, and examined in psychiatric clinic, during the year of 1944, for offenses ranging from purse snatching to murder.

The selection of this age group was contingent upon several considerations. A review of the statistics on the age distribution of offenders examined at this clinic over a 10-year period indicated a sharp increase in the number of offenders falling into this age group. Moreover, at the time of this study, the 16- to 20-year-old group was larger than any other 5-year group. In addition, because under the New York Penal Code offenders in this group may be placed in a special category by the Judge of the County Court in which adjudication is made after all available material including medical and psychiatric reports are submitted, it was felt that this group (youth offenders) offered an unusual opportunity to study some selective factors. Perusal of literature revealed a relative paucity of material concerning the psychiatric findings of offenders in this age group in contrast with the abundant literature on delinquency in children under 16 years of age.

The Psychiatric Clinic of the Court of General Sessions was established in 1933 by an Act of the New York State Legislature, for the purpose of examining all offenders, after trial but before sentence is pronounced. In the case of youth offenders, as indicated above, the procedure is modified so that the clinic report is submitted prior to trial, in contrast to adult offenders.

Sociological Data

1. *Residence and Nativity.*—All the 25 offenders resided in New York City at the time of the offense, but 9 had made their homes in New York City for less than 6 months at time of arrest.

While all the offenders were native born, only 14 had parents both of whom were born in the United States. The remaining 11 consisted of those whose parents were both foreign born, and 4 whose fathers were foreign born but whose mothers were native American.

2. *Early Childhood.*—The home environment in many instances was unfavorable, lacking in healthy parental influences, family ties, and adequate medical care. Ten boys had one parent deceased or deserted before their tenth birthday. In 2 instances, the boys suffered the loss of *both* parents either through death or desertion, before they reached the age of 10. Examination of the home environment of the remaining 13 revealed poor relationship between child and parent and excessive illness of the child.

3. *Educational Achievement.*—A striking characteristic of this group was their inability to complete any type of school or craft training. A review of their schooling reveals that only 2 attended college (which they left in the first year); 18 had not completed high school; and 5 had not completed elementary school. None had taken any vocational training whatever, nor did any of the group have a consecutive, adequate work record. Examination revealed no mental defectives amongst this group.

4. *Nature of Offenses.*—Twenty-two of these boys were charged with crimes against

[1] Read at the 104th annual meeting of The American Psychiatric Association, Washington, D. C., May 17-20, 1948.

From the Department of Psychiatry, New York University College of Medicine, and the Psychiatric Division, Bellevue Hospital of New York City, S. Bernard Wortis, M. D., Director.

[2] Fellow in Medical-Legal Psychiatry, 1944.

[3] Formerly Physician-in-Charge, Psychiatric Clinic, Court of General Sessions, New York, N. Y.

property, whereas only 3 were charged with crimes against person, i.e., murder and assault.

Psychiatric Findings

Our clinical findings revealed no psychosis or mental deficiency. The most outstanding feature was the high frequency of neurotic traits, such as suicidal attempts, depression, excessive shyness, anxiety (in 11) and excessive use of alcohol (in 15). Homosexuality existed in 5 boys. Of the total 25 surveyed, 21 showed either neurotic traits, homosexuality, or excessive alcoholism or combination of these.

Our material indicates that criminal acts are the result of the interaction of an antisocial character formation and neurotic conflicts. These form complementary vectors, and the individual criminal act or acts is the resultant of the 2 vectors. Thus, some cases are due to antisocial character formation alone, while in others there are varying proportions of antisocial character formation and neurotic conflicts.

Typical Illustrative Cases

These case histories have been abbreviated to show the pertinent factors in these boys' lives which have been discussed above.

TABLE 1

Offense Charged and Frequency of Neurotic Traits, Homosexuality, and Excessive Use of Alcohol

Case No.	Charged offense	Neurotic traits	Admitted homosexual practices	Admitted excessive use of alcohol
1.	Stole 3 coats	Denied	+	+
2.	Car robbery	Denied	o	+
3.	Murder	Depressed; previous suicidal attempt	+	+
4.	Broke into bar	Denied	+	+
5.	Broke into bar	Seclusive	o	+
6.	Purse snatching	Depressed	o	+
7.	Rifled vending machine	Depressed	o	o
8.	Broke into apartment	Denied	+	+
9.	Pants and purse snatching	Denied	o	+
10.	Broke into apartment	Denied	o	+
11.	Pickpocketed in subway	Denied	o	+
12.	Broke into mansion	Cardiac neurosis	+	+
13.	Stole trousers and purse	Depressed	o	o
14.	Car stealing	Denied	o	+
15.	Assault and battery	Denied	o	+
16.	Broke into store	Denied	o	o
17.	Rape	Denied	o	+
18.	Stole $275 from cash drawer	Guilt feelings	o	o
19.	Robbed candy store	Denied	o	o
20.	Broke into apartment	Tense; anxious	o	o
21.	Robbed candy store	Shy	o	o
22.	Burglarized poolroom	Tremulous; anxious	o	o
23.	Climbed fire escape	Denied	o	o
24.	Stole gun from policeman's house	Denied	o	o
25.	Stole 18 packs of cigarettes	Blushes easily	o	+
3	Crimes against person	11	5	15
22	Crimes against property			

1. R.F. Case No. 8 (antisocial character, plus neurotic traits).—Born in New Jersey, June 7, 1923. He was deserted at the age of 2 by his mother. He was left at a farm for a period of time and then with a landlady who assumed responsibility for him. His father was frequently unemployed and was an alcoholic. Left school at 16 because his father could no longer support him. He changed jobs frequently until he joined the Navy. He deserted from the Navy after severe punishment for frequent drunkenness. He found his way to New York City, where he lived off his friends, and earned small amounts occasionally by allowing homosexuals to perform fellatio. While drunk one night he broke into an apartment, taking a radio

and a watch. R. F. is essentially a passive, dependent person, suffering from the desertion and rejection by his mother. He was unable to make a heterosexual adjustment to any other woman. His inability to face reality resulted in his alcoholism as an escape, and his immaturity is revealed in his lack of responsibility for himself, in his unemployment, and in his school and Navy records.

2. C.F. Case No. 9 (primarily antisocial character).—The third of 4 children. Born in Kentucky, October 1, 1923. Father was unemployed during the greater part of C.'s childhood. His mother died at the time he was 8 years old. He left school at 14 to go to work; then left home at 16 and had numerous jobs throughout the country. In 1943 while in Detroit, he picked up a girl and went to Florida. Because he was afraid he would be prosecuted under the Mann Act, he returned with her to Detroit. He and an associate grabbed the wallet and clothes of their landlord, who they say propositioned them to work for him as pimps. The associate was apprehended and C.F. was found in Michigan, where he had fled to escape the police. C.'s personality was distinctly antisocial. He felt that society had failed him and, since he suffered childhood hardships, thought he could avenge himself against society. He pictured himself magically powerful, omnipotent, and impervious to punishment and apprehension.

3. J.L.B. Case No. 10 (primarily antisocial character).—Born in Florida, August 3, 1924, the seventh child, he suffered economic privation because of his father's unemployment, which existed during the greater part of J.'s childhood. He left school at the ninth grade because he envied the other children's clothes and pocket money. At the age of 16 he broke into a store, was caught and sentenced to the county road gang for one year and a day. He ran away and was captured. He married at 18 and when his wife had a miscarriage he deserted her. He had many odd jobs until he came to New York in 1943, where he found work as an elevator operator. Because he was involved in a fight in his place of work, he quit. His mother planned to visit him in New York City and, anxious to make a good impression on her, he robbed an apartment with two accomplices. He is impulsive, immature, and irresponsible. He did not believe he would be caught or punished, despite his previous experience with the law. He phantasied that his crime would be forgotten and forgiven, had no reality concept of his antisocial behavior.

4. C.L.K. Case No. 12 (antisocial character and neurotic conflicts).—Born in Oregon, July 10, 1926, the youngest of 8 children. His father was over 49 when he was born and his mother was a cardiac invalid. C. was reared by older siblings. The family were poor. C. was sickly and egocentric. He fought with his siblings and spent much time in daydreaming and phantasy. He was enuretic till the age of 6 and suffered with frequent nightmares. He left high school at 15, and had a herniorraphy at 16, and subsequently developed a cardiac neurosis. He wandered through the country and held a job for a short time with the U.S.O. He was picked up in San Antonio because he seemed too friendly with the soldiers and was suspected of espionage. He came to New York, where he tried to live above his means and later found work as a soda clerk. He lived with a homosexual radio announcer and one night, while drunk, he broke into an empty mansion. For years C. felt he was not as masculine as other men. He did not "feel human" unless he used rouge and lipstick. He is very religious and longs to be the protégé of an older man. He finds life exhausting and he is unable to enjoy the "higher things" of life.

5. S.L. Case No. 18 (primarily neurotic).—Born in New York City, May 25, 1924, the youngest of 6 children. His father was 55 years at the time of his birth and very religious and prohibitive in his attitude toward the boy. His mother was sickly and died of arteriosclerosis when S. was 14. At 12, S. had osteomyelitis of the left fibula. He left school in the second year because he did not like it. Placed in a foster home at the death of his mother, he did not adjust well there because of rivalry with 2 other boys. He left at the age of 17 and found work as a clerk in a hospital. He says that he found $275 in a cash drawer. He took the money and went to Florida, where he wrote to the hospital offering to return the money because he said "his conscience bothered" him. He was picked up and brought back to New York. S. was depressed, and extremely guilty about his sexual impulses which he regarded as brutal, aggressive, and sadistic. He wished a father-surrogate to take care of him.

Summary and Pertinent Findings

A review of the case material points up 4 significant findings:

1. The short period of residence in New York City of a large number of offenders, *i.e.*, less than 6 months at the time of arrest. As is to be expected, the greatest metropolis in the world attracts the unstable, unrooted, impulsive adolescent who seeks his fortune and anonymity because life in his home town offers little adventure. They seem to take jobs of short duration, with little compensation in terms of monetary reward or satisfaction, and thus, frustrated and disappointed again, are apt to choose an easy way of survival.

2. The loss of parents by death, desertion, and broken homes was found in the life history of almost half of the offenders. In this respect this group is similar to younger and adolescent offenders, as reported by others studying delinquency. It is fair to as-

sume, therefore, that separation from parents at the early age cited, before the tenth year, is a serious predisposing factor toward antisocial and delinquent behavior.

3. The inability of these boys to sustain efforts in terms of educational and vocational achievement is striking. Despite their "affect-hunger," they did not sublimate by learning a skill, or trade, or schooling for some of their unfilled needs. The lack of libidinal development and subsequent weak ego growth seems to result in a total inability to achieve satisfaction in a socially acceptable sense, in terms of schooling and work.

4. The high incidence of neurotic traits indicates that for the most part behavior in this group fell between two poles—antisocial character and neurotic acting out. The majority of the subjects showed a combination of both.

In addition, our psychiatric findings would place these offenders in three major groups, as follows:

(A.) The antisocial character,
(B.) The antisocial character associated with neurotic conflicts,
(C.) Primarily neurotic personalities with minimal antisocial character formation.

CLINICAL NOTES

HYPNOSIS IN ELECTRIC SHOCK TREATMENT[1]

L. T. MAHOLICK, M. D., AND J. WARKENTIN, PH. D., M. D.
Lawson V. A. Hospital and Emory University, Georgia

Certain patients receiving electric shock therapy are noticeably apprehensive and may become very resistive to the treatment. This is often particularly true when curare is used routinely, as it is in this hospital. Some patients have stated that the injection (curare) was "worse" than the electric shock treatment itself.

It occurred to us with one very resistive patient that it might be preferable to hypnotize him than forcibly to administer shock treatments. Hypnosis prior to shock was so effective that we have now used it in 17 cases. In this group there were 7 diagnosed as depressive reactions; 10 were schizophrenic reactions (8 paranoids, one simple, and one unclassified). The number of shocks given per patient varied from one to 31.

The method used was as follows: The patient was placed on the bed and was given suggestions to relax and to go to sleep. Curare was then given intravenously. Suggestions were continued in accordance with the physiological responses to a drug with such remarks as "things are getting very blurry; your eyes are getting heavier; your muscles are relaxing all over; your eyes are closed; you are very heavy all over; you are completely relaxed and asleep." At the same time the patient was told to take deep breaths. This seemed to allay anxiety about smothering as the effects of the curare began to reach the muscles of the tongue, throat, and larynx. In our series, the schizophrenics were most difficult to hypnotize. However, our patients were sufficiently suggestible to make these reassuring measures profitable.

During the first or second treatment with hypnosis, most of the patients were not hypnotized deeply, but after several treatments they went into a deeper trance and did so almost immediately after lying down on the treatment bed.

Hypnosis was found to be a definite aid in administering shock treatment in all the 17 cases. The patients were much calmer, less aggressive, and more cooperative. Apprehension was definitely decreased.

This preliminary report is made with the hope that others will try this method. The possibility is suggested that hypnosis might be an aid in the newer types of shock. In the use of electronarcosis, preshock hypnosis might obviate the need for preliminary sedation, which often causes some inhibition of respiration.

[1] Published with permission of the Chief Medical Director, Department of Medicine and Surgery, Veterans Administration, who assumes no responsibility for the opinions expressed or conclusions drawn by the authors.

CORRESPONDENCE

LETTER FROM PROFESSOR BONHOEFFER

At the 1948 meeting of The American Psychiatric Association, Professor Karl Bonhoeffer of Berlin was elected an honorary member, and notification to that effect was sent to him by President Overholser.

It has just been learned that Professor Bonhoeffer died as the result of a stroke on December 4.

A translation of his letter to Dr. Overholser dated August 11 acknowledging receipt of notification of his election to honorary membership follows:

MY DEAR DR. OVERHOLSER:

I was extremely pleased to receive your friendly notification that I was made an honorary member of The American Psychiatric Association at its last meeting. I fully appreciate the great honor of having been admitted to the most outstanding psychiatric association in America. I would like to come to one of the forthcoming meetings to express my thanks personally; but the difficulties of our present living conditions and my age will hardly permit me to do so. I must beg you, therefore, as president of the Association, to give my sincere thanks to the American colleagues.

I hope that you received my letter of thanks for your friendly greetings on my eightieth birthday.

With kindest regards I am

Yours very truly,

K. BONHOEFFER.

PRESIDENT'S PAGE

MEMBERSHIP

The American Psychiatric Association not only has become a large organization, but its growth has been rapid. We must anticipate a continued rapid growth. In 1932 there were 1,400 members. In the 8 years to 1940 it increased a thousand, to 2,423 members. In the last 8 years this number has almost doubled, with an official membership in 1947 of 4,341. The average growth has been between 300 to 500 members a year. The great and rapid development is healthy but it has produced some of the problems confronting us as an organization. Our organizational structure and methods have not been changed during a period in which we have increased in size at least 500%.

An analysis of some of our membership figures is interesting and indicative of some problems. The reorganization committee, in its circulated study, listed the A.P.A. members and also the total number of psychiatrists in each of the proposed districts. Among the significant features in the distribution of our A.P.A. psychiatrists, as of the 1946 membership, nearly a quarter of our number—957—lived in New York State. The second largest number was in California, with 318 members. Massachusetts and Pennsylvania had an equal number for third and fourth places, each with 241 members. There were 9 states that had 10 or less; North and South Dakota, Mississippi, Wyoming, Utah, Idaho, Montana, Nevada, and New Mexico. Currently 174 of our members, or 4%, are located in Canada.

A very rough breakdown of the distribution of psychiatrists according to their major specified duty has been supplied by our Information Service in the office of the Medical Director. Until we have a new biographical directory, these can be only very rough guess estimates, as based upon our current Membership Directory. Thirty-five percent of our membership, or 1,533 psychiatrists, are known to be in private practice. Seventeen percent are located in state hospitals, with an additional 2½% in city and county hospitals, amounting roughly to about 850 members. Nearly 10%, or 405 members, are on duty with the Veterans Administration. A little over 8%, or 361 members, work in private hospitals and sanitaria. As indicated, these figures are very tentative, but they also show considerably less than 1% in many special interests such as work in courts, prisons, colleges, and industry.

Even though we have made an enormous growth, the Association should include and be of help to every psychiatrist. Currently we are far from meeting this opportunity. In the study made by our reorganization committee, in addition to the psychiatrists listed as A.P.A. members, they obtained figures to indicate that there were some 600 additional psychiatrists who were not members. In a recent study made by the U. S. Public Health Service, it was determined that there were 1,635 physicians (undoubtedly some not psychiatrists) on duty in state hospitals in 1946. Of this number, only 41.7%, or 681 individuals, were members of The American Psychiatric Association. A number of superintendents and clinical directors are not members of the A.P.A., estimated at 20%, and a considerable number of their staff are not members, estimated at 40%.

A study of our membership list indicates that there are over 2,000 members who are, at least nominally, eligible to become Fellows of the Association. The membership committee is currently studying this problem intensively. It has been suggested that, in our state hospitals and in our training centers, we have failed to invite many physicians in the practice of psychiatry to apply for membership in our Association. Were they to become members our Association would be greatly strengthened, and organized psychiatry could move forward even more rapidly. What is the situation in your own institution or clinic?

WILLIAM C. MENNINGER, M. D.

COMMENT

NEW PYRRHIC VICTORIES OF ACADEMICIAN LYSENKO

In a previous issue of this JOURNAL (103: 125), F. W. MacArthur called attention to the ideological crusade waged by Lysenko's political commandos against what was left of a science of genetics behind the Iron Curtain. In exposing the dogmatic fallacies in the officially endorsed textbook of Russia's most notorious academician and supreme commissioner of biology, "Heredity and Its Variability," the reviewer expressed the hope that the relentless fury of Lysenko's drive for political prestige and demagogic power would not succeed in silencing the entirety of Russia's once highly prosperous and internationally renowned profession of scientists working in the field of human genetics. Unfortunately, a sequence of recent events bore witness to the deplorable futility of any hopes entertained by Western "bourgeois" geneticists. All these developments clearly indicated a trend which threatens to spell disaster to the remnants of scientific genetics in the USSR.

Earlier forebodings of this calamitous course included a vitriolic denunciation by Pravda of the "unpatriotic" acts of Russian scholars who had dared to publish abroad any scientific data capable of being interpreted in disfavor of Lysenko's atavistic mysticism, and a decree of the Presidium of the Supreme Soviet of the USSR that virtually throttled any further exchange of certain medical journals with the State Central Medical Library in Moscow (J.A.M.A., 137: 1331). These ominous actions were followed by an official decision of the Russian Academy of Sciences to sabotage the first postwar meeting of the International Genetics Congress which was held in Stockholm in July 1948, in the presence of delegates from 38 different nations. Russian geneticists were not allowed to attend the Congress, since "they were too busy to leave their work" (J. Hered., 39: 219).

Shocking historical facts of this Soviet trend toward "the excision of the established principles of genetics from the body of science" were disclosed in the presidential address of the American Nobel Laureate in Medicine, Professor H. J. Muller, who recently renounced his honorary membership in the Academy of Sciences of the USSR "in protest against the authoritarian control of science by politicians" (Science, 108: 436). He identified many names on the long honor roll of martyred Russian geneticists who disappeared without a trace, and placed on record the rather revealing fact that the Seventh Genetics Congress—originally scheduled to be held at Moscow in 1937 and eventually shifted to Edinburgh in 1939—could have taken place in Russia upon the officially imposed condition that "no papers be read touching on human genetics." Evidently, Russian officials believed in the inheritance of acquired characters already at that time and, therefore, carefully protected their citizens from the potential danger of becoming disillusioned with respect to the communistic dogma that adherence to the economic principles of an anticapitalistic régime would result in a miraculous improvement of genes.

The perverted purification of the ever-diminishing ranks of Russian biologists was completed when, immediately after the Stockholm congress, the general acceptance of Lysenko's "pre-scientific obscurantism" was enforced at a conference of the All-Union Academy of Agricultural Science by the methods of a medieval police state, that is, by the use of his own dictatorial authority as a vice-chairman of the Supreme Soviet. In the lively debate which followed his presidential address on the transmission of acquired characteristics in plants and animals, Lysenko crushed any further scientific opposition by the cynical revelation that his speech carried the pre-arranged sanction of the Central Committee of the Communist Party of the Soviet Union. As a result and to the surprise of no one, the majority of

Lysenko's opponents hastened to recant their "reactionary" views. The others were either removed from their positions or, like the outstanding cytologist Dubinin, saw their laboratories abolished.

FRANZ J. KALLMANN, M. D.

ELECTROENCEPHALOGRAPHY

Electroencephalography has been one of the most important technical developments in the fields of neurology and psychiatry in the past decade. Its great clinical usefulness in the fields of convulsive disorders and organic brain disease has become established. From a research viewpoint the electroencephalogram has been used widely to study not only the physiochemical factors underlying the central nervous system activity but also in the investigation of cortical and subcortical synaptic relationships. Full credit for the development of electroencephalography is due Hans Berger who, despite an indifferent reception of his initial paper in 1929, kept extending his investigations until their significance was established in 1935, when Adrian and Yamagiwa confirmed the cortical origin of the so-called "Berger rhythm" and Foerster and Altenburger confirmed Berger's clinical observations. In the same year Gibbs, Davis, and Lennox published their paper on epilepsy. This paper of Gibbs and his associates may be said to mark a significant milestone in the study of convulsive disorders. In 1938 Jasper and his associates published their paper on EEG changes in behavior problem children and for the first time related cortical electrical activity to the problem of abnormal behavior.

While little is yet known of the fundamental physical and chemical processes (membrane permeability, electrolyte concentration, oxidative process) that give rise to the rhythmical electrical activity recorded in the EEG, there is agreement that the frequencies recorded reflect irritability changes in the cortical neurons and that the potential deflections accompanying this activity are recorded in the EEG in terms of frequency. Most investigators assume that the cortical neurons in a given area, which are linked closely together in synaptic relationship, function as units, that these units (neuron pools) pass through irritability cycles (activity, inactivity) at a rate predominately determined by their anatomical relationship and that any given frequency in the EEG results from synchronized firing of such units. The greater the mass of neurons firing (or the lower the mean irritability) the slower the recorded frequency. Normally, frequencies of 8 to 12 per second (alpha rhythm) are present in the EEG. This rhythm has been established as being predominately cortical in origin and arises as the result of neuronal activity in the gray matter. Frequencies of 8 to 15 per second occurring in spindle formations appear normally (particularly in the frontal leads) in sleep. There is evidence to show that this activity is largely thalamic in origin.

Analysis of EEG tracings is made either by visual inspection of wave forms and frequencies or by means of mechanical analyzers that permit analysis of the tracings in terms of incidence of waves of various frequencies. It can be said that there is yet no frequency analyzer that can replace the trained eye or the clinical acumen of the electroencephalographer in the visual inspection of tracings. Frequency analyzers, however, permit the detection of frequencies which cannot be distinguished easily by visual inspection and facilitate the reading of differences in predominant frequencies which from a research standpoint offer certain advantages.

Of clinical interest are those changes in EEG patterns produced by disease. The abnormal patterns (seizure waves) seen in convulsive disorders have been classified by Gibbs as: (1) Petit mal variant; alternating spike and wave patterns, 2 per second in frequency. (2) Petit mal type; 3 per second alternating bilateral synchronous spike and wave pattterns. (3) Psychomotor type; flat top 4 per second waves with high voltage 6 per second waves and irregular spikes. (4) Grand mal type; fast wave discharges, 12 to 35 per second of increased amplitude.

In organic brain changes paroxysmal high

voltage, slow waves have been noted in patients with subcortical lesions. Rhythmic 1 to 4 per second waves may be associated with deep tumors while waves of a frequency of 4 to 6 per second have been noted not infrequently with diencephalic lesions. Abnormal low voltages may be associated with destructive cortical lesions. In reference to the electrical findings in patients with brain tumors Kershman has recently reported that frequencies of 1 to 2 per second are most frequently found associated with glioblastomas; while frequencies of 4 to 7 per second accompanied by fast spikes are seen with astrocytomas. Meningiomas show a similar pattern, 4 to 7 per second waves and fast spikes.

It must, however, be emphasized that with the possible exception of the seizure waves seen in petit mal there is no diagnostic relationship between EEG patterns and the nature of the pathological lesion. From this it follows that clinical responsibility for diagnostic interpretation of the EEG record should be placed in the hands of those with training in neurology and psychiatry (this does not infer that electroencephalography should be restricted to those with an M. D. degree, as the need for research workers in this field is great).

While the usefulness of electroencephalography to psychiatry in the fields of organic mental disease is acknowledged there is, as yet, no convincing evidence of specific EEG abnormalities in functional psychiatry disorders; nor is there any evidence that the incidence of EEG variability is any greater in patients with such disorders than in the general population despite the numerous reports in the literature to the contrary. These divergent views in the EEG literature are not only confusing but indicate a pressing need for all workers to agree on accepted normal EEG controls against which to check their respective findings.

JOSEPH HUGHES, M. D.

NEWS AND NOTES

INTERNATIONAL CONGRESS OF PSYCHIATRY.—An International Congress of Psychiatry will be held in Paris from October 4 to 12, 1950. In accordance with regulations decided on at the International Preparatory Meeting (Paris, October 23, 1947) the official spoken languages will be English, French, Spanish and (should Russia participate) Russian. The program of the 6 main afternoon sessions includes:

1. *General Psychopathology.* Chairman: Professor Ferdinand Morel (Geneva, Switzerland). Subject: Psychopathology of Delusions.
2. *Clinical Psychiatry.* Chairman: Professor Honorio Delgado (Lima, Peru). Subject: Application of Testing Methods to Clinical Psychiatry.
3. *Psychiatric Anatomo-Physiology.* Chairman: Professor F. L. Golla (Bristol, England). Subject: Cerebral Anatomy and Physiology in the Light of Lobotomy and Topectomies.
4. *Psychiatric Biological Therapy.* Chairman: Professor Jozef Handelsman (Warsaw, Poland). Subject: Respective Indications of the Shock Therapy Methods.
5. *Psychotherapy, Psychoanalysis, Psychosomatic Medicine.* Chairman: Dr. Franz Alexander (Chicago, U. S. A.). Subject: The Evolution and Present Trends of Psychoanalysis.
6. *Social Psychiatry.* Chairman: Professor Torsten Sjögren (Stockholm, Sweden). Subject: The Genetic and Eugenic Aspects of Psychiatry.

In addition, these 6 sections and the seventh section (*Child Psychiatry*) will organize for the morning sessions a number of meetings, symposia, and work sessions.

The organization committee plans to set up 2 exhibits in connection with the Congress, the first one on Art and Psychopathology (apply to Dr. Bessière, Centre Psychiatrique Ste-Anne, I, rue Cabanis, Paris XIV°); the second on History of Psychiatric Progress (Professor Laignel-Lavastine, 12bis, place Laborde, Paris VIII°).

The French committee was entrusted, at the International Preparatory Meeting, with the organization of the Congress. This committee, set up in 1947, is as follows:

Honorary Chairmen: Professor Pierre Janet (in memoriam); Professor Jean Lhermitte (Paris).
Chairman: Professor Jean Delay (Paris).
Vice-Chairmen: Dr. L. Marchand (Paris); Dr. Henri Baruk (Paris); Professor P. Delmas-Marsalet (Bordeaux); Dr. Georges Heuyer (Paris).
General Secretary: Dr. Henri Ey (Paris).
Treasurer. Dr. P. Sivadon (Ville-Evrard, Neuilly-sur-Marne, Seine & Oise).

In each country, a National Committee of the Congress is being set up; when possible, a chairman, a secretary, and a director are appointed for each section.

General Management: Dr. Henri Ey, General Secretary, I, rue Cabanis, Paris XIV°.

INTERNATIONAL CONGRESS OF CRIMINOLOGY.—The second International Congress of Criminology will be held in Paris in 1950 immediately after the sessions of the International Psychiatric Congress. Chairman of the committee of organization is Professor M. Donnedieu de Vabers, eminent authority on international criminal law, who served as one of the judges in the Nuremberg trials.

In order to begin and coordinate the preparations for the Congress, 6 scientific committees have been set up, one for anthropology, biology, and typology; one for psychology, psychiatry, and psychoanalysis; one including police sciences and legal medicine; one for sociology and the moral and political sciences; one for penitentiary science; and one composed of specialists in juvenile delinquency drawn from the experts on the other five committees. The committee of organization hopes that a study group will be created within each country with the intention of sending representatives to the planning meeting. The *Revue de Science criminelle et de Droit penal comparé* has been selected as the official organ for the preliminary work of the Congress. The secretariat is located in the Institute of Criminology, 12 Place de Panthéon, Paris (5°).

AMERICAN OCCUPATIONAL THERAPY ASSOCIATION.—The 31st Annual Convention was held Sept. 7-11, 1948, in New York City, with more than 800 in attendance, representing the United States, Canada, Czechoslovakia, Denmark, England, Hawaii, India, Puerto Rico, and South Africa. The program dealt with the application of occupational therapy in psychiatry and physical medicine.

Speakers included Dr. Bessie Burgemeister, research pathologist at the New York Neurological Institute (projective techniques in psychiatric diagnosis); Miss Marguerite Emery, OTR, director of occupational therapy, Neurological Institute (value of finger painting); Mr. S. R. Slavson, Jewish Board of Guardians (occupational therapy in group psychiatry); Dr. Luther E. Woodward, National Committee for Mental Hygiene (vocational rehabilitation of the mentally ill); Dr. Leland E. Hinsie, assistant Director of the N. Y. State Psychiatric Institute (the function of the occupational therapist in psychiatry); and Dr. Lothar B. Kalinowsky, research associate, Department of Psychiatry, Columbia University (occupational therapy as an adjuvant in shock therapies and prefrontal lobotomy).

On Sept. 10 and 11, a teaching institute on neuropsychiatric conditions was scheduled. Speakers included Dr. J. W. Fidler of the VA Mental Health Clinic, Newark, N. J.; Dr. William Malamud, Boston University School of Medicine; and Dr. Nolan D. C. Lewis, N. Y. State Psychiatric Institute. Dr. Dale Cameron of the Federal Security Agency explained the organization of the National Mental Health Act and indicated procedures for obtaining approval of grants-in-aid for advanced training of occupational therapy personnel.

Guest speaker at the banquet, which was attended by nearly 400 persons, was Dr. Howard A. Rusk, chairman and professor of the Department of Rehabilitation and Physical Medicine, Bellevue-New York University College of Medicine.

MOUNT HOLYOKE COLLEGE INSTITUTE ON THE UNITED NATIONS.—The second session of this Institute will be held from June 26 through July 23, 1949. The Institute will again provide men and women concerned with world affairs with an opportunity for study and discussion in small groups with United Nations leaders, officials of the United States and foreign governments, and other specialists in international affairs. Practical problems in fostering international understanding on the community level will be considered.

Inaugurated last summer under the sponsorship of Mount Holyoke College, the Carnegie Endowment for International Peace, and 23 other sponsors, the Institute is open to men and women able to make a direct contribution to international understanding in their communities. A limit of 100 members has been set to permit a high degree of individual participation. Members will be accepted from the United States and from foreign countries.

For information about fees and scholarships write to Mary J. Levy, Executive Secretary, Mount Holyoke College Institute on the United Nations, South Hadley, Mass.

VA TREATMENT RESULTS.—Steadily improved technique and results of treatment of neuropsychiatric disabilities are reflected in admission and discharge ratios of patients in Veterans Administration hospitals. Recent trends show discharges exceeding admissions:

Period	Admissions	Discharges
July–December 1946.....	26,528	25,296
January–June 1947.....	29,841	29,128
July–December 1947.....	31,508	*31,773*
January–June 1948.....	29,268	*30,892*

NEW YORK UNIVERSITY—BELLEVUE MEDICAL CENTER.—New York University in expanding its graduate teaching facilities has appointed Dr. S. Bernard Wortis professor of psychiatry and neurology in the Postgraduate Medical College and director of the psychiatric and neurologic services of the Postgraduate Hospital. This is in addition to his present position as professor of psychiatry and head of the department in the New York University College of Medicine.

Dr. Lewis I. Sharp, associate professor of clinical psychiatry at New York University, will succeed Dr. Wortis as director of the Bellevue Psychiatric Division. These changes were effective as of Jan. 1, 1949.

SOUTHERN PSYCHIATRIC ASSOCIATION.—The 1948 annual meeting of this Association was held Dec. 6 and 7 in Dallas, Texas. The scientific program covered many aspects of the fields of psychiatry and mental hygiene. Other activities included the annual dinner

of Dec. 6, a luncheon on Dec. 7, and special entertainment for the ladies.

Officers of the Southern Psychiatric Association are Dr. Guy F. Witt, president; Dr. Walter J. Otis, vice-president; Dr. R. Burke Suitt, Dr. James A. Becton, and Dr. James Asa Shield, Board of Regents; Dr. Newdigate M. Owensby, secretary-treasurer. Dr. Arthur Schwenkenberg was chairman of the committee on arrangements.

DR. STANLEY COBB SALMON LECTURER, 1949.—Dr. C. Charles Burlingame, chairman of the Salmon Memorial Committee, has announced the selection of Dr. Stanley Cobb as the Salmon Memorial Lecturer for 1949. Dr. Cobb is President of the American Neurological Association, Bullard Professor of Neuropathology at Harvard Medical School, and psychiatrist-in-chief of the Massachusetts General Hospital. He is the author of standard textbooks in psychiatry and neuropathology.

The subject of the 1949 Salmon Lectures will be announced later.

DR. OVERHOLSER ELECTED TO NATIONAL BOARD OF MEDICAL EXAMINERS.—Everett S. Elwood, executive secretary and editor of the National Board, reports that Dr. Winfred Overholser, superintendent of Saint Elizabeths Hospital, Washington, D. C., and professor of psychiatry at George Washington University, was elected to membership in the National Board of Medical Examiners at its recent annual meeting, for the full term of 6 years.

Dr. Overholser will be a member of the National Board's Division in Medicine and will assist in the preparation of questions asked in medicine, which include questions in psychiatry. He is the first psychiatrist who has been elected to membership on the National Board.

This appointment will ensure that psychiatry is suitably represented in the testing of doctors who are candidates for licensure.

ROCKEFELLER FOUNDATION APPROPRIATIONS.—The annual report of the Rockefeller Foundation for 1947 indicates that the total appropriation for the year was $23,046,058. Of this amount, $2,250,000 was devoted to public health and $1,521,125 to the medical sciences. The main effort in the Medical Sciences Division during 1947 went to its program in neuropsychiatry, with an appropriation of $728,375. With two exceptions these grants were made to institutions in the United States and Canada. There were four grants for general support of medical school departments of psychiatry (University of Chicago, University of Cincinnati, Dalhousie University, and Washington University), but most of the projects concerned specific research in such subjects as brain chemistry (Columbia University), genetics of mental disease (Columbia University), epilepsy (University of Illinois), fetal injury (Columbia University). Two grants gave aid to organizations which are interested in improving the standards of psychiatric care in institutions throughout the country (National Mental Health Foundation; American Psychiatric Association committee on psychiatric nursing).

PI LAMBDA THETA AWARDS.—The National Association for Women in Education, Pi Lambda Theta, announces awards for research on the professional problems of women from the Ella Victoria Dobbs Fellowship Fund. Two awards of $400 each will be granted on or before August 15, 1949. An unpublished study may be submitted on any aspect of the professional problems and contributions of women, either in education or some other field. A study may be submitted by any individual, whether or not engaged at present in education work, or by any chapter or group of members of Pi Lambda Theta.

Three copies of the final report of the completed research study must be submitted to the committee on studies and awards by June 1, 1949. Inquiries should be addressed to the chairman of the committee, Alice H. Hayden, University of Washington, Seattle 5.

DR. BURLINGAME RECEIVES FRENCH DECORATION.—It has just been learned that several months ago Dr. C. C. Burlingame was awarded the Medaille de la Reconnais-

sance de la France Libérée. This is the fifth French decoration Dr. Burlingame has received during past years, including the Gold Medal of Honor. He also holds decorations from the previous governments of Poland and Czechoslovakia.

RESIDENCY IN NEUROLOGY.—An additional residency for training in neurology under the Veterans Administration has been organized by the Philadelphia Deans Committee. This residency covers a period of 3 years or less, depending upon the previous experience of the applicant, and is designed to prepare residents for certification in neurology by the American Board of Psychiatry and Neurology. The program includes rotation through the VA Hospital, Coatesville, Pa., the VA Regional Office, Philadelphia, and the Philadelphia General Hospital. Application should be sent to the Manager, VA Hospital, Coatesville, Pa.

THE LESTER N. HOFHEIMER RESEARCH AWARD.—In memory of the late Lieutenant Lester N. Hofheimer, his Estate has contributed a fund to The American Psychiatric Association to provide an annual award for an outstanding research in the field of psychiatry and mental hygiene.

The Hofheimer Prize Board, consisting of 8 Fellows of the Association, has been appointed to evaluate research contributions submitted. This Board is authorized to award each year, at the annual meeting of The American Psychiatric Association, a prize in the amount of $1,500, which will be known as "The Hofheimer Prize."

Information concerning conditions of this award may be obtained from the Hofheimer Prize Board, American Psychiatric Association, 1624 Eye St., N. W., Washington 6, D. C.

PARAPSYCHOLOGY.—In order to learn the current attitude of neuropsychiatrists to parapsychology, Dr. Russell G. MacRobert sent a questionnaire to some 2,500 diplomates of the American Board of Psychiatry and Neurology and members of the Association for Research in Nervous and Mental Disease. Replies were received from 723, or 28.8%. The questions and summary of returns follow:

1. Are you familiar with the recent findings of psychical research pertaining to extrasensory perception? *Yes: 222 (31%); No: 86 (12%); Slightly: 415 (57%).*

2. Do you believe that personal bias, experimental or statistical errors may account for the positive findings? *Yes: 274 (38%); No: 125 (17%); Uncertain: 324 (45%).*

3. Do you believe that psychiatrists and neurologists would serve a useful purpose by sponsoring research to determine if extrasensory perception has a place in the psychodynamics of the nervous system? *Yes: 495 (68%); No: 129 (18%); Undecided: 99 (14%).*

4. Have you ever observed, in your general experience or professional practice, anything which would indicate an extrasensory awareness? *Yes: 163 (23%); No: 437 (60%); Uncertain: 123 (17%).*

5. Do you feel that identification with psychical research would discredit your professional standing? *Yes: 138 (19%); No: 453 (63%) Uncertain: 132 (18%).*

THE NATIONAL MENTAL HEALTH ACT.—The Public Health Service of the Federal Security Agency has issued a folder outlining the scope of training and research opportunities under the National Mental Health Act. The brochure contains a list of institutions offering Public Health stipends for graduate training in psychiatry, clinical psychology, psychiatric social work, and psychiatric nursing.

This item can be obtained (price 10 cents) by applying for Mental Health Series No. 2, to the U.S.P.H.S., Washington 25, D. C., or to the U. S. Government Printing Office.

IOWA NEURO-PSYCHIATRIC SOCIETY ORGANIZED.—Iowa physicians interested in psychiatry and related subjects have formed an Iowa Neuro-Psychiatric Society. The organization is the result of two meetings, one at Woodward in September, 1948, and arranged by Dr. George Wadsworth of the Woodward State School, and the second at Des Moines in December. These meetings were attended by 40 physicians.

The Society will conduct educational and scientific meetings, sponsor activities in professional and lay groups to improve the care and treatment of children and adults who suffer from maladjustment difficulties, and engage in activities to raise the standards of

hospital and clinic treatment of mental disorders. It will also be interested in mental hygiene work and preventive psychiatry.

Officers of the Society are as follows: president, Dr. P. E. Huston of Iowa City; vice-president, Dr. N. D. Render of Clarinda; secretary-treasurer, Dr. G. M. Sawyer of Woodward; councillors, Dr. M. B. Emmons of Clinton, Dr. C. C. Graves of Des Moines, Dr. J. I. Marker of Davenport, and Dr. T. B. Throckmorton of Des Moines.

MULTIPLE SCLEROSIS.—The Public Health Service and the National Multiple Sclerosis Society are sponsoring a survey of multiple sclerosis cases in 4 different parts of the country. Purpose of the survey is to determine incidence, prevalence, and local distribution of the disease, and to attempt to find out whether geographic, climatic, or racial factors influence case distribution. Dr. L. T. Kurland (epidemiologist, Field Studies in Mental Health, Mental Hygiene Division) is the Public Health Service representative on the cooperative project. The dean of a school of public health or a school of medicine will supervise each survey. The physicians, hospitals, and nursing homes in each area will be questioned in an attempt to record all cases in the survey areas.

The first survey began in New Orleans, November 15. Subsequent surveys will be conducted in San Francisco, in Boston, and in rural and urban areas covered by medical facilities in Minneapolis, St. Paul, and Rochester, Minn.

BERNAYS AWARD FOR INTERGROUP RELATIONS RESEARCH.—The Society for the Psychological Study of Social Issues announces this award for 1948-49. A $1,000 U. S. Government bond will be presented to the individual or group contributing "the best action-related research on some aspect of the problem of improving relations between groups within the United States."

The contest is open to all social scientists here and abroad. All research published or completed during 1948 and 1949 will be eligible for the competition, which closes July 1, 1949. Manuscripts reporting completed research but not yet published will also be eligible.

The contest will be judged by a committee composed of leading American social scientists. Chairman for the Intergroup Relations Award is Prof. Gordon Allport, Department of Social Relations, Harvard University. Inquiries should be addressed to Prof. Ronald Lippitt, who is president of the Society for the Psychological Study of Social Issues, at the Research Center for Group Dynamics, University of Michigan, Ann Arbor.

CEREBRAL PALSY TRAINING PROGRAM.—A program for training vocational guidance workers and job placement technicians specializing in the employment problems of persons disabled by cerebral palsy and other multiple handicaps has been announced by Alpha Gamma Delta, international women's college fraternity, and the National Society for Crippled Children and Adults, Chicago. An annual grant of $5,000 will be provided for a limited number of inservice training fellowships to be awarded by the National Society.

By surveying public and private counseling and placement agencies, the National Society will develop agreements for the training of workers among those agencies able to conduct intensive programs for the cerebral palsied and physically handicapped. Fellowship candidates will be selected on the basis of professional qualifications and competence. Grants will cover expenses, including tuition.

The National Society for Crippled Children and Adults is located at 11 South La Salle St., Chicago 3.

ASSOCIATION FOR PHYSICAL AND MENTAL REHABILITATION CONVENTION.—This Association will hold its third annual convention at the Hotel New Yorker, New York City, May 18-21, 1949. More than 500 representatives from the nation's Veterans' Administration, Army, Navy, and civilian rehabilitation agencies will be present. Mr. Leo Berner, chief corrective therapist of the Bronx Veterans Hospital, is chairman for the convention.

For further information write to H. S. Wettstein at the Corrective Therapy Section, VA Hospital, Bronx, N. Y.

BOOK REVIEWS

PROBLEMS OF EARLY INFANCY. Edited by *Milton J. E. Senn.* (New York: Josiah Macy, Jr. Foundation, 1947.)

Within the past few years a number of new theories of infant nurture based upon a generation of scientific investigation in child development have been promulgated and placed in practice. The seeds of a more rational psychiatric prophylaxis would seem to be germinating in this essentially flexible approach to child rearing founded upon the rationale of encouraging normal maturation by democratic management rather than by attempting to force it into some preconceived pattern. These concepts, both practical and theoretical, are examined and elaborated in the small book under review.

The papers included in this volume are the product of the first conference on problems of early infancy held in March 1947 and sponsored by the Josiah Macy, Jr. Foundation. After introductory statements by Fremont-Smith and Bartemeier, Senn discusses anticipatory guidance for prospective parents. Mead and Maloney contribute papers on anthropological aspects of infant care and Rose and Walser write on breast feeding. There follows a group of papers on obstetrical "rooming in" projects by Jackson, Olmstead, Hyder, Fries, Montgomery, and Escalona, concluding with a discourse on pathogenic maternal attitudes by Sylvester. They make up a well-planned and rounded interdisciplinary discussion upon various levels of integration including the physiological, psychological, social, and cultural. The summarized general discussions which follow most of the papers appear to have been edited exceedingly well since there is encompassed within a few pages a wealth of material bearing upon areas fruitful for further research.

There is one disquieting note raised by a few participants in the conference, and that is a vague antiscientific tone specifically directed against statistical methods as contrasted to clinical ones. This attitude, if continued, would not augur too well for the validation of the child care theories under discussion. It is quite clear that statistics merely constitute a mathematical tool which cannot extend beyond the validity of the clinical data it measures and correlates. Nor can there be any implication that statistics can in any wise substitute for richness and acumen of trained clinical insight. Nevertheless, their importance in providing a vigorously disciplined means of clarifying and objectively evaluating our clinical observations and thinking should not be underestimated. As psychiatrists and workers in related fields we should be aware that the barriers to adequate evaluation of clinical findings are quite as often resident in psychological involvements of the investigator as in the incapacity of statistics, as at present developed, to deal with some of the more sensitive problems of psychiatry.

The intention of the Director of the Macy Foundation to stimulate by this conference ". . . . presentations which would be provocative of discussion . . . ." was evidently fulfilled quite well. Having begun so favorably, further meetings in this field will be welcomed.

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SYNOPSIS OF NEUROPSYCHIATRY. By *Lowell S. Selling, M.D.* (Second Edition) (St. Louis: The C. V. Mosby Company, 1947.)

This synopsis of neurology and psychiatry, written to fill "a need for having standardized guides and simplified manuals," is over 500 pages long, and is recommended by the author to "aid the student in organizing his thinking, even supplying his memory with certain basic facts." The volume is about equally divided into 2 parts, the first dealing with neurology, the second with mental disorders.

The embryology of the nervous system is covered in 1½ pages. Each neurological syndrome is described generally under the following headings: definition, etiology, pathology, symptoms, differential diagnosis, medicolegal aspects, prognosis, and treatment. On the whole, the essentials of each disorder are fairly well given. In the discussion on aphasia, Head's classification is described in addition to that of Weisenburg, but no effort is made to instruct the student in the practical methods of testing to demonstrate the presence or absence of aphasic disorders. When the subject of epilepsy is discussed, the psychological manifestations of the disorder are minimized, and this reviewer disagrees with such statements as, "Even in those individuals who have rare attacks, with only a history of spells, a definite personality change has been noted. The patient is irritable and slightly grandiose . . . . ," and, under the physical findings of epilepsy, "These apparently are more consistent. Minor, vague stigmata, disorders of growth and development are seen with epilepsy, as well as intercurrent skeletal changes and endocrine changes." Such myths should have been long ago dissipated.

In the section on psychiatry, Freudian psychoanalytic concepts are discussed in a little over 5 pages. The definitions are sometimes rather loosely written, and examples of mental mechanisms poorly chosen. Under delirious syndromes, the author mentions, "Prolonged medication with sedative or hypnotic drugs, particularly bromides, veronal, and chloral, brings about delirium." Although chloral is particularly mentioned, and is a drug which seldom produces delirium, the barbiturates which are now in such common use are not mentioned specifically at all. In the chapter on psychiatric therapy, a note is made that "free association (modified psycho-

analysis) involves the use of some analytic techniques but without the demand upon the patient that he spend a long time with the therapist"! When suggestion as a therapy is discussed, "these methods are very helpful in the behavior disturbances of adults, correction of bad habits other than alcoholism or drug addiction. . . . ." One wonders what sort of "bad habits" the author has so successfully treated by so simple a procedure. Confusing statements, such as, "The object of hypnosis is to use the patient's specially prepared mental state, so that he will be convinced of the other methods of the symptoms and disorder," or "responses (to electric shock therapy) are not quite so good but still are quite adequate in some psychoneuroses where there is a good deal of compression," could well be clarified. Under the treatment of alcoholism by means of the conditioned reflex method, the auditor recommends, "In this treatment the patient is given a series of treatments, one each day, with the following prescription: emetine 50 grains, pilocarpine 55 grains, ephedrine 23 grains, and water 40 c.c." Were anyone to follow such advice, he might cause the patient's death! There is little in the psychiatric literature to confirm the statement, "The habitual use of marihuana is likely to result in lasting psychotic disease," although the author adds, "Generally, withdrawal causes the psychosis to terminate in recovery."

In the outline of manic-depressive psychosis and schizophrenia, the pathogenesis of manic-depressive psychosis is dismissed with, "Little is known about this," and little is said of the psychodynamic formulations of these conditions. The author emphasizes somato-therapy in the treatment of these disorders, but states that for the psychoneurotics "psychoanalysis is the treatment of choice if the patient's economic condition can sustain it." The term "parapsychoses" is used so rarely in American psychiatry that its introduction in a volume of this kind can only serve to confuse the student. Psychosomatic medicine is covered in 8 pages and malingering in 6. Because of the author's own interest in forensic psychiatry, there is considerable reference to medicolegal aspects of neurology and psychiatry, which is useful and practical. To provide some background to a student for intensive review, this volume might serve some purpose, but the student should be sufficiently experienced to be able to evaluate critically some controversial statements.

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THESE ARE MY SISTERS. By *Lara Jefferson.* (Tulsa: Vickers Printing Co., 1947).

This book came to the reviewer's attention quite accidentally, having been picked up on a newsstand during a trip to Oklahoma having to do with the mental hospitals in the state. The initial interest was therefore great, and the first impression highly favorable. The lapse of nearly a year has not lowered the reviewer's opinion at all. However, the distribution of this book outside the state must have been very limited. His copy is the only one the reviewer has seen or heard of.

There is no particular plan to the tale. It is characterized by a graphic, almost photographic, reality, and, mixed with some introspective passages, an amazing objectivity. The scene is one of the Oklahoma State Hospitals—probably easily identified by anyone with any degree of familiarity with the state system—during the administration of Governor "Alfalfa Bill" Murray. The time is not too important—the hospitals in that state, as in far too many others, made no startling changes until the last year or two. The surroundings are sickeningly familiar—a harassed, overworked, discouraged staff, untrained or semitrained "nurses," overcrowded wards. In this instance, the hydrotherapy suite is used as a ward, the equipment having been ruined by unsuitable water. Restraint is used, extensively, on the decision of the attendants—the camisole, sheet restraint, tying in chairs and subduing with a pillow over the head! "Sick hypos.," no doubt apo-morphine, are used openly as retaliatory measures. Patients carry on many of the nursing procedures, and have virtual charge of the ward dining room. There is little attempt to classify except on behavior—old, young, chronic and acute, sick and robust, all appear in these pages. Reference is made to a few conversations with the ward physician, with apparently some effort at psychotherapy, but the general impression is that this is desultory and exceptional.

One could quote many paragraphs from this little book—the reviewer was fascinated by the novelty and freshness of some of the ideas presented, and rather appalled by others. Here, he is sure, we have the private opinions and attitudes of many of our patients. They are, as he has often suspected, not particularly flattering. For example: "They have a list of long Greek and Latin words and when they observe such and such symptoms in one of us, they paste the label for our phobia on us—and that is the end of the matter."

One would be hard put to define and describe the subconscious turmoil of a psychosis better than Miss Jefferson does. ". . . . Anything that can be whittled down to fit words—is not all Madness. It is only ideas of such colossal proportions that a symbol for them cannot be created—that are vague and intangible and brooding, incomprehensible and fearful, that produce Madness." Or, to outline in simple, nonpsychiatric terms the nature of mental illness. "We cannot cope with life as we find it, nor can we escape it or adjust ourselves to it, so we are given the power to create some sort of world we can deal with . . . . much more real than reality."

One of the most eloquent pleas for eugenical sterilization the reviewer has ever read is given in this book. Even though one senses a depressive, suicidal wish in it, it is a sincere, impassioned plea which refutes the argument that patients are opposed to this procedure.

Despite many lapses in grammar and some clumsy writing, the book has freshness, originality, and the vividness of on-the-spot reporting. It certainly deserves to be rescued from the relative inattention it has received.

It would not be fair to leave the impression that conditions in the Oklahoma hospitals are still as they were when this book was written. An aroused public opinion, stimulated largely by an investigation conducted by Mike Gorman, an able reporter of the "Daily Oklahoman," caused the legislature to pass a reorganization bill establishing central control of the institutions, and to appropriate considerably greater funds for their maintenance. A much happier story can no doubt be told of life in the Oklahoma hospitals today.

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CASE HISTORIES IN CLINICAL AND ABNORMAL PSYCHOLOGY. Edited by *Arthur Burton* and *Robert E. Harris.* (New York: Harper & Bros., 1947.)

The significance of this book to the field of psychiatry is its demonstration of the usefulness and prognostic implications of diagnostic psychological testing. The wide variety of somatic and psychotherapeutic techniques utilized in the treatment of the mentally ill affords a challenge to the clinical psychologist to perfect and devise techniques which help to facilitate selection of the most feasible therapeutic procedures. Further, such techniques could be utilized in the evaluation of the progress of therapy and in follow-up. The importance of this latter aspect (follow-up) in terms of preventive psychiatry is readily apparent. Viewed as a whole, this volume is a milestone in the fulfilment of this challenge.

Dr. Henry A. Murray has written a long introduction in which he presents a convincing case for the rôle the clinical psychologist should play in the staff of a mental institution. With the stimulus given by the Veterans Administration, the problem of the rôle of the clinical psychologist is one which will soon demand formal attention and recognition. The large number of applicants for the limited facilities in academic clinical psychology program compels selections to be made on as rigorous (and in some schools more so) a basis as medical school. Applicants are also screened on the basis of extensive personality testing—a practice which medical schools could well copy profitably. Positions for well-trained clinical psychologists in mental institutions should be planned for, and their value to the institution can be readily gleaned by perusing this book.

Forty-three case histories are described—examples of most of the personality and behavior disorders—written by 48 collaborators displaying "their tools, mechanical and conceptual, which they find useful in getting on with patients and clients and with their professional colleagues." The following disorders are included: major functional psychoses, psychoneurosis and psychosomatic conditions, mental disorders with brain damage, mental deficiencies, primary behavior disorders, emotional problems of childhood, special disabilities, and personnel counseling. Almost every known psychodiagnostic test has been referred to and many applied in great detail.

As is to be expected from any book composed of heterogeneous material written by a multitude of authors and with but little editorial supervision, there is much that should have been revised or omitted. In fact, in many instances the purpose of the book has been inadequately fulfilled because the case histories do not present the specific personality disorder which purportedly they profess to do. There is at times a conspicuous lack of integration of the case history with the psychometric studies, for in some instances there is too little clinical history with too much noncorrelated psychological information, and vice versa. There is no consistent mode of presentation of the cases. Many tests and many results of little known tests even for the psychometrically sophisticated reader are mentioned with little or no explanatory comments about their nature, content, or utility. The usefulness of the book would be considerably enhanced if a chapter were devoted to a review of current psychological tools used clinically. One cannot approve the editors' policy on the selection of cases, for they admit that the cases were not studied with a view toward publication and that they were pulled from the files of the collaborators who wrote them up "perhaps only a little more completely than they would in everyday practice." Certainly the already overburdened reader of psychiatric literature should not be subjected to material published under auspices of distinguished editors that is not of serious thought and does not have constructive value.

It is my opinion that the unquestioned worth of this present volume to those associated either professionally or academically with the problem of mental disease warrants the immediate concentration upon a carefully edited revision composed of more refined and expository treatment of the case material with particular emphasis upon integration between clinical and psychometric data. Such a volume would indeed be a tribute to the effective rôle of clinical psychology today as well as sound evidence of its potentialities for the future.

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THE PSYCHOBIOLOGICAL PROGRAM OF THE WAR SHIPPING ADMINISTRATION. Edited by *George G. Killinger, Ph. D.* (*App. Psychol. Monog.*, 1947, No. 12. Stanford University, Calif.: Stanford University Press for the American Psychological Association.)

This monograph is an account of the varied wartime activities performed by the psychologists and psychiatrists assigned by the U. S. Public Health Service to the War Shipping Administration (WSA). One member of the U. S. Maritime Service also collaborated. The activities involved work with the men trained by the WSA in the Apprentice Seamen Training Stations (ASTS) and with the officer candidates at 2 of the Cadet Midshipmen Schools. The major emphasis is upon the ASTS programs.

Essentially, the work involved some efforts to screen men and cadets for unfavorable psychiatric characteristics, to supply psychotherapy to men whose adjustment to wartime sea duty appeared marginal, to present the concepts of mental hygiene to both men and cadets, to study the psychological and sociological characteristics of men and cadets, to evaluate the screening methods used, and to develop some medical administrative and statistical procedures. This multiplicity of activities is subsumed under the term "psychobiological program," hence the title. The 26 chapters, which are organized into 8 sections, deal in a somewhat piecemeal manner with the major activities. There are 17 contributors, and the presentation is far from uniform. The serious student will appreciate some of the material and test forms in the appendix almost as much as he will the body of the report.

One section of 6 chapters gives an over-all statement of the program and detailed reports of activities at 5 different WSA installations. These chapters are rather discursive and repetitive and could better have been condensed into one statement instead of 6.

The section on selection is in some ways the best presentation in the volume. Stone and Malament, with the assistance of Zubin, describe the construction and evaluation of the major screening test used, the Maritime Service Inventory (MSI). It is a forced-choice personality and background measure based upon the personal inventory developed primarily by W. C. Shipley for the National Defense Research Council. The evaluation of this instrument by Zubin at the U. S. Maritime Service Training Station, Sheepshead Bay, is well done. Colville's report on its use at the U. S. Maritime Service Training Station, St. Petersburg, is corroborative; but, unfortunately, the presentation does not follow that for the other station closely enough to produce really comparable data in all respects. Fundamentally, the evaluation took the form of comparing MSI scores of psychiatric disenrollees from the training program with those of a large group of entering trainees. Also in this section is a report by Marmor and Colville which indicates that the amplified Harrower-Erichson Multiple Choice Test (Rorschach) was not a useful instrument for discriminating between normal and abnormal subjects. Finally, Kline reports an attempt to predict the survival in training of officer candidates. His results appear fairly good, but his data are not presented in an entirely clear manner.

The rest of the report, except for the section on training in mental hygiene, reports data primarily of interest to those actually concerned with administrative and medical administrative problems in the WSA. In the section on mental hygiene there are discussions of several interesting methods of training in this field. Kline's very short report of selection of leaders by a situational test is interesting, but only an impressionistic evaluation of its effectiveness is presented.

In conclusion, the reviewers feel that the report would have been improved by the exclusion of the photographs that remind one a bit of the recruiting office.

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CHARLES C. LIMBURG, PH. D.,
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ANIMALI E UOMO VISTI DA UNO PSICOLOGO (Animals and man seen by a psychologist). By *Giorgio Zunini.* (Milano: Societa Editrice "Vita e Pensiero," 1947.)

This book is addressed primarily to the nonprofessional reader in the interests of a wider appreciation of the substance and purpose of modern psychology. It is a lively, readable presentation, worked up in informal style and proceeding in a highly effective manner from simple to the more complex aspects of the field.

The work is introduced from the vantage point of comparative psychology, with 2 chapters on the behavior of fishes and canines. The purpose is to show how psychological research develops, how facts are catalogued and compared in an effort to determine what is common to the life of all living creatures and what is specific and characteristic of man.

Professor Zunini develops throughout the book the thesis that psychology is the science of man and that it can never be divorced from the human element which is his most characteristic aspect and which the purely biological approach tends to deny. Instinct and development, their correlations and reciprocations, instinctive behavior, sexuality, personality are all developed from this point of view. The concluding chapters deal with various psychological schools and with a plea for the "humanization" of psychology.

As the vehicle of a point of view in psychology, this book can be read with pleasure and profit. It defends with vigor and conviction the essential dignity and worth of man and stresses the multiple determinants of personality as well as the rôle played by the individual's scale of values. "It is not so much," the author states, "the gross endowment, whether physical or psychical, which man has at his disposal that matters, but rather the manner in which it is integrated in the complex of the personality with a definite scale of values."

C. C. B.

THE REHABILITATION OF THE PATIENT. By *Caroline H. Elledge.* (Philadelphia: J. B. Lippincott Co., 1948.)

The foreword by Dr. Philip D. Wilson, Surgeon-in-Chief, Hospital for Special Surgery, New York, draws attention to the timeliness of this volume and emphasizes the need for teamwork in any rehabilitation program.

The author from the outset points up the need for cooperation of many agencies in the individual case and feels that the social caseworker is in a strategic position to promote this required cooperation.

The volume is replete with well-organized case material to illustrate methods suggested, as well

as to record results obtained. This approach is to be commended.

A number of pages are devoted to discussion of a variety of community agencies whose services are available to individuals with physical handicaps. In addition to the division of the book into 6 chapters with appropriate and attractive titles, there is further subdivision of the subject matter by such paragraph headings as, "Results of Too Much Family Help," "Results of Too Little Family Interest," "Value of Rehabilitation Centers and Sheltered Workshops," "Is a Cash Settlement or Pension Always Enough?" This reviewer believes such treatment greatly enhances the value of the book.

At no point is the idea of teamwork lost sight of and the need for leadership by the physician is repeatedly stressed.

Chapter Six deals with "Conclusions" and is brief, but very much to the point. We beg leave to quote 2 paragraphs:

"Not all persons need social casework services in order to use other specialized rehabilitative facilities. Many individuals can and do avail themselves of vocational guidance and placement services, for instance, and achieve satisfying and useful lives without other help. On the other hand, some people have such deep-seated personality difficulties that they can only be helped through psychiatric treatment. Here the social caseworker may pave the way for an individual to seek psychiatric treatment when, at first, he does not see its value for him. In between are those individuals whose personal problems may be decreased through their use of social casework services.

"Early recognition of signs and symptoms of personal difficulties by all members of the rehabilitation team may prevent prolonged, unnecessary suffering in the lives of those who have not only physical impairments but social and emotional handicaps as well."

While perhaps the author has presented nothing especially new in this small volume, she has nevertheless pointed out to the medical social worker, who may perhaps have had little or no specific psychiatric training, the psychiatric implications of physical disease and the need to recognize the individual as, in Dr. Adolf Meyer's term, an "integrated whole."

Anyone interested in rehabilitation should find this volume interesting and stimulating.

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Hormones and Behavior. By *Frank A. Beach.* (New York: Paul B. Hoeber, Inc., 1948.)

Dr. Beach, in his book "Hormones and Behavior," has tried to correlate behavior with physiologic disturbances in both animal and human being. He has approached the subject from a broad point of view and as one reads the book one gradually applies to the endocrine system many of the patterns that we know so well occur in man.

The first part of the book is divided into several chapters with a detailed study of such subjects as sexual behavior, including abnormal sexual activities and homosexuality; emotion, in which the question of premenstrual tension and menopause are thoroughly considered. Mating, learning, etc., are all given a complete consideration with an exhaustive survey of experimental literature and the application of these problems to man.

In the last 2 chapters, Dr. Beach draws together the more detailed studies and reminds us of the variabilities that occur both from a physical and a hereditary point of view and how these effect hormonal responses. He ends by giving his interpretation of the effects of hormones. He reminds us first of all that the effect is systematic rather than specific and that there is a neurogenic as well as a psychic factor in human beings. This mechanism of hormonal action he applies to sexual behavior, maternal behavior, and learning. This approach tends to correlate the earlier chapters of the book.

In conclusion, the book is easily read and is readily adaptable for use as a reference book, being very complete in its survey of experimental literature. For those who wish a comprehensive review of the subject it would be a most useful book to own.

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History of Medicine. By *Cecelia C. Mettler, Ed. B., Ph. D.* Edited by *Fred A. Mettler, M. D., Ph. D.* (Philadelphia and Toronto: The Blakiston Co., 1947.)

Dr. Cecelia Mettler, late associate professor of medical history, University of Georgia, and subsequently associate in neurology, Columbia University was one of the first full-time professors of medical history in America and the first woman to hold such a position. During more than 9 years she had labored on the present text, consulting thousands of original sources and often using her own translations.

Dr. Mettler died at a comparatively early age in December 1943, only a few days after she had completed the manuscript of this book. The final editing was then taken over by Professor Fred A. Mettler of Columbia University, who had been closely associated with the work throughout and who wrote the chapter on neurology and psychiatry.

This volume of 1,215 double-column pages is divided into 15 chapters, each chapter dealing with a special department of medicine and tracing its history from the earliest records down to the twentieth century. Chapter 1 reviews anatomy and physiology through the sixteenth century; then follow in order chapters on anatomy in the modern period, physiology in the modern period, pharmacology, pathology and bacteriology, physical diagnosis, medicine, neurology and psychiatry, venereology, dermatology, pediatrics, surgery, obstetrics and gynecology, ophthalmology, otology, and rhinolaryngology. For the student this arrangement is particularly favorable, permitting him to fa-

miliarize himself with the origins and development of each discipline as he encounters it in the medical curriculum.

"In a work of this type," the author states in her preface, "we are quite naturally forced to limit ourselves to outstanding facts and, further, to present these as briefly as possible." Moreover, while a few names and events of the present century are mentioned, the treatment of this period is extremely meagre. With purpose no attempt has been made to fill out the record of recent decades. It is assumed that the reader will be more or less familiar with contemporary medical history—at any rate the records are readily accessible. Space has therefore been allotted preferentially to the older writings that are more difficult to come by. An especially valuable feature of the present work and which distinguishes it from the usual history is the full translation of the most important portions of this earlier source material.

Even so, it seems a pity that space could not be found for reference to Harvey Cushing's path-finding work in brain surgery and Sir Frederick Banting's discovery of insulin—to mention only two outstanding omissions.

Each chapter is preceded by a portrait of one of the pioneers in the history of medicine, and is followed by an extensive and detailed list of selected readings, including both books and the periodical literature, with which to amplify the brief discussions in the text. The book is well indexed (110 pages) with both an index of personal names and a subject index.

C. B. F.

IN MEMORIAM

SAMUEL TORREY ORTON

1879-1948

Dr. Samuel T. Orton died on November 17, 1948, in a hospital in Poughkeepsie. He had not been well in recent years and was obliged to restrict his work considerably. Several weeks before his death he had been injured by a fall in his country home which necessitated his removal to the hospital.

Dr. Orton was born in Columbus, Ohio, on October 15, 1879. He received his bachelor degree from Ohio State University in 1901, M. D. from the University of Pennsylvania in 1905, and M. A. from Harvard in 1906. In 1910 he went to the Worcester State Hospital, where he served as pathologist and later as clinical director till 1914. He was instructor of neuropathology in Harvard in 1913. He then moved to the Pennsylvania Hospital in Philadelphia, where he was scientific director until 1919. From that year until 1927 he worked at the State University of Iowa, where he was professor of psychiatry and director of the State Psychopathic Hospital.

It was in 1927 that he came to New York, which was the field of his work for the rest of his life. At first he served as neuropathologist to the New York Neurological Institute and professor of neurology and neuropathology at the College of Physicians and Surgeons. In 1936 he resigned from these positions as the work was too great for his never too strong constitution. From that time on he restricted himself to private practice, principally in his favorite field of the language difficulties. In 1943 he was appointed consultant in language disabilities at the Institute of the Pennsylvania Hospital.

It was while he was in the State University of Iowa that he became interested in the reading and writing disabilities that were to be the major interest in his life and the field in which his well-earned reputation was made. His concept of strephosymbolia served to elucidate many of the reading and writing problems that were so poorly understood before Dr. Orton applied his highly scientifically trained mind to them.

The value of Dr. Orton's work was well recognized by his colleagues. In 1928-29 he served as President of The American Psychiatric Association and in 1932 he was elected President of the Association for Research in Nervous and Mental Diseases. He was a member of the American Neurological Association, the New York Academy, and an honorary member of the New York Psychiatric Society. In 1945 his Alma Mater, the University of Pennsylvania, awarded him the honorary degree of Doctor of Science.

Sam Orton was a friendly fellow and always enjoyed being with his friends. His health, however, made it necessary for him to restrict his extraprofessional activities severely and in recent years we saw little of him. But we always knew he was there and we could call on him for help with our language cases. This help he ever was glad to give. He will be sadly missed by those who knew him best.

Dr. Orton is survived by his second wife and a son and two daughters from his former marriage.

LOUIS CASAMAJOR, M. D.